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Vista Voyage

Embarking On A Vista Upgrade Requires Patience, Planning, Testing

by Christian Perry

NOT ONLY ARE WIDE-SCALE data center changes not accommodating for the faint of heart, but they're not exactly friendly even to managers of steel resolve. As such, in the year since Microsoft's Windows Vista (www.microsoft.com) hit the market, uptake into enterprises has been merely a gradual process.

However, as more time passes, small and midsized enterprises are increasingly under the gun to get onboard with the new Windows operating system. Although many users might hesitate to leave the familiar grounds of Windows XP, Vista offers increased security, management, and other features that can benefit organizations. Those benefits will eventually push most enterprises into adoption, which in turn will spark the need for a solid upgrade plan.

Benefits Abound

According to Josh Kaplan, marketing director at RES-

CUECOM (rescuecom.com), Vista features that would appeal to the SME market fall into three areas: security, management, and user interface. "On the security side, there is a host of new security initiatives, some of

which are built-in anti-malware tools, digital content protection, and network access protection," Kaplan says.

Whereas previous Windows operating systems gave most users access to sensitive administrative functions, in turn making those environments susceptible to malware, Vista employs the new User Account Control, or UAC, feature, which monitors potential administrative changes.

"When a user attempts a task that would require administrative access, like installing software, they are prompted to give consent—or, depending on how they have configured UAC, even to enter administrative credentials to perform the task," says Laural Gentry, product manager with CA (ca.com). "Then, access is elevated to complete only the task for which it was given consent."

Also new is BitLocker Drive Encryption, which Gentry explains will safeguard data even if a user's system is lost, stolen, inadequately decommissioned, or accessed by an unauthorized user. The entire Windows volume is encrypted by Vista, and that

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TECH & TRENDS

SIP-Based Attacks:

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Session Initiation Protocol's vulnerabilities run the gamut and can give black hats the opportunity to take control of machines, access networks, initiate denial of service attacks, or destabilize systems.

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In an effort to rein in the use of corporate resources, many organizations are instituting acceptable use policies.

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Today, biometrics devices are quickly emerging from make-believe into reality as numerous products designed to work with computers make their way into the marketplace.

Justifying Emerging Technologies | 26

According to a Gartner report issued in early October, IT should look to the business side of a small to midsized enterprise to quantify whether a new technology is worth pursuing.

Product Releases | 15

■ **Acronis** released Acronis True Image Echo, which lets users back up and restore physical and virtual servers. ■ **AdventNet** launched the latest iteration of its ManageEngine Device-Expert, the firm's flagship network change and configuration management product. ■ **Enterasys Networks** announced Secure Networks for Virtual Data Centers, a hardware and software solution designed for connectivity and compliance in virtualized computing and storage. ■ **Global**

DataGuard launched the Enterprise Unified Threat Manager ++ for comprehensive security applications that can be managed from a single console. ■ **Readata** introduced the 9240 SAS/SATA Unified Storage System, which provides integrated iSCSI SAN, NAS, and WAN replication. ■ **Seanodes** announced Seanodes storage software for server virtualization. ■ The StoneGate SSL VPN 1.1, a secure VPN product, will soon be available from **Stonesoft**. ■ **Sunbelt Software** announced its new email archiving solution, Sunbelt Exchange Archiver.

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VoIP Security Risk Alert

Locking Down SIP For Voice Traffic May Be More Important Than You Think

by Bruce Gain

• • •

EDWIN ANDRES PENA seemed to exemplify the American dream. The young born-in-Venezuela businessman was able to amass such wealth as a 40-foot boat, south-Florida real estate, and BMW and Cadillac Escalade luxury cars through his Internet-based phone services company in a very short period of time. But his arrest last year revealed a dark side to Pena's seemingly successful venture: More than 10 million phone-service minutes

his firm sold for more than 500,000 phone calls belonged to unsuspecting VoIP service providers whom Pena had defrauded.

The incident made headlines, while it also served as a wake-up call for the IT community about VoIP vulnerabilities, because Pena had committed his crimes by penetrating networks. With the help of a co-conspirator, Pena managed to hack networks and reroute calls without detection through unprotected SIP (Session Initiation Protocol) ports. According to records the Federal

Bureau of Investigation obtained from AT&T, the black hat hacker Pena employed initiated more than 6 million port scans.

The incident, however, has not stopped VoIP's popularity from exploding. According to Yankee Group, the business VoIP services market will be worth \$3.3 billion by 2010.

"Voice is going through the roof," says Paul A. Henry, vice president of technology evangelism for Secure Computing (www.securecomputing.com). "In fact, last year the number of new telephone deployments using VoIP exceeded those using PBX deployment with analog phone lines."

Unfortunately, Henry says, VoIP networks are often not locked down like they should be. "We are at the tip of the iceberg. They are selling these voice packages, yet I am not hearing anyone talk about voice security," Henry notes. "It is somewhat appalling for a security expert to hear [vendors] talk about all of the features, the

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SIP's vulnerabilities can give black hats the opportunity to take control of machines, access networks, or destabilize systems.

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Pinpoint Performance Issues

TeamQuest IT Service Reporter Lets You Report On Disparate Components

IF YOUR ENTERPRISE is like most, you face network problems that can oftentimes prove difficult to detect, investigate, and diagnose. Programs such as TeamQuest IT Service Reporter can help.

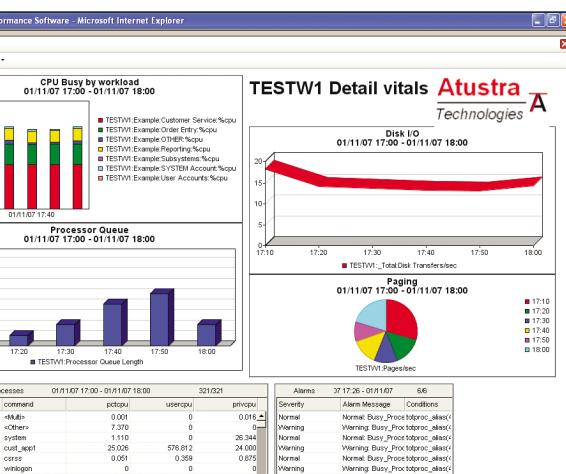
TeamQuest IT Service Reporter is a rich Web application used to create, customize, and distribute reports via the Web or in PDF or Excel formats. Use Service Reporter to: create dashboard-style reports customized for your intended audience, customize reports with your logo and explanatory text using a drag-and-drop interface, and provide a performance management report revealing the status of IT services

Using XML and Java, TeamQuest IT Service Reporter offers a highly interactive, Web-based user interface for defining reports. Use it to show which IT resources are at risk for performance issues and report IT service performance as it relates to business, seamlessly accessing data without regard to where the data is actually stored.

Automated Reporting

IT Service Reporter is the perfect choice for automated reporting and simplified distribution. The program automatically creates periodic customized performance reports and makes those reports available to IT or business unit management.

Reporting features let you create dashboard-style reports to communicate status at a glance and service level achievement at a



With IT Service Reporter, you can easily define detailed reports pertinent to different audiences, annotate reports, and even include your company logo for a more polished, professional look.

glance, revealing opportunities for improved efficiency to management. You can show which systems are at risk for performance issues. Use workload analysis features to analyze and report how much of each server resource is being consumed by each IT service, business process, department, or application. Or use IT Resources to analyze and report the performance of IT services, combining performance data from multiple servers, applications, or other components.

Reports can be accessed over the network or from a browser, so you can access data anywhere. A simple drag-and-drop interface lets you define reports. And you can limit access to reports that include only the performance information appropriate for a particular user.

IT Service Reporter is interoperable with your own or third-party applications. You can export and import IT Resource definitions from CMDBs or third-party discovery tools using XML; generate reports using reporting tools such as Crystal Reports in conjunction with an optional Oracle enterprise database; export reports in Adobe PDF or Excel formats; and generate alarm events and send them to third-party consoles via SNMP traps.

Multiple Users, Uses

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- Automatically distribute reports via the Web or use PDF or Excel formats
- Demonstrate IT value and efficiency
- Show service delivery efficiency with customized management reports
- Report IT service performance relative to agreed-upon service levels
- Identify excess or insufficient capacity
- Provide a capacity dashboard revealing IT service status
- Concentrate IT optimization efforts on IT Resources that affect the most critical IT services
- Understand which of thousands of systems in your IT operation are at risk for performance issues
- Integrate with third-party tools
- Access performance data using your own or third-party reporting tools such as Crystal Reports
- Generate alarm events and send them to third-party consoles via SNMP traps.

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A10 Networks' AX Series Next-Generation Server Load Balancer Provides Industry's Best Price/Performance



TWO AX SERIES switches from A10 Networks are designed to provide reliable, cost-effective application-delivery platforms.

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The AX's ACOS (Advanced Core Operating System) architecture is revolutionary by market standards because of its native multisystems support, which includes an optimized multi-CPU architecture built from the ground up designed for performance, scalability, and reliability.

The AX's ACOS architecture scales performance across multiple decoupled CPUs and specialized programmable ASICs linearly to ensure maximum scalable performance, including when all of the features are turned on. The AX Series' aRule

Advanced Scripting technology provides ultimate policy creation flexibility to deliver rich traffic inspection and switching capabilities, helping organizations adapt to ever-changing conditions and application types.

The end result is a switch with uncompromised performance even when all features are turned on, which helps organizations reduce data center power, server, and rack space requirements. Plus, all features are included in the standard list price.

The two newest AX Series appliances, 2000 and 2100, are 2U appliances designed for enterprise data centers and server farms. The AX 2000 has two CPUs, 2GB of memory, eight Gigabit over copper ports, two G small-form factor pluggable fiber ports, and an 80GB hard drive. The AX 2100 has those same components, plus an additional two CPUs and two G small-form factor

pluggable fiber ports; the 2100 also has dual 80GB RAID 1 hard drives.

All AX models feature carrier-grade hardware, the industry's best SSL and Layer 4-7 price/performance, support for IPv4 and IPv6, and an industry-standard command-line interface and easy-to-use GUI.

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NEWS



Discs Lost In UK Contain Data On 25 Million

TWO DISCS CONTAINING names, addresses, birth dates, National Insurance numbers, and, in some cases, bank account information on 25 million people have gone missing in the UK. The discs hold personal records on child benefits claimants, which include all families in the country who have a child under 16. Password-protected but not encrypted, the discs are believed to have been lost in transit as the UK's HM Revenue & Customs agency sent them via internal mail to the National Audit Office on Oct. 18. Although Chancellor Alistair Darling said no evidence suggests that criminals have possession of the discs, he did urge those affected to monitor their bank accounts.

UK Mistake Was Attempt To Save Money, Could Cost Banks \$500 Million

REGARDING THE DISCS lost by the UK's HM Revenue and Customs, emails surrounding the case have since been released, revealing that the decision was made to send the unencrypted disks without first removing sensitive information in an effort to save the agency money. According to estimates from Gartner, the data breach could cost UK banks \$500 million in costs associated with closing and reopening bank accounts, as well as reissuing debit cards to those affected.

Server Shipments Up

OVERALL SERVER SHIPMENTS in the United States during the third quarter were up about 5% compared to a year ago, according to the latest report from Gartner. Dell remained the leader in terms of units shipped; it shipped more than 240,000 servers during the quarter, up 1% from a year ago. HP came in second, with shipments up 13.3% compared to a year ago; IBM claimed third, despite shipments dropping about 11%. In terms of server revenue, IBM came in first with \$1.5 billion, followed by HP, Dell, and Sun.

VA Experiences Another Data Breach

ALTHOUGH DETAILS of the potential data breach have not been released, Rep. Steve Buyer (R-Ind.) has revealed that three computers—one laptop and two desktops—were stolen from a U.S. Department of

Veterans Affairs medical center in Indianapolis. The computers involved in the theft, which occurred on Veterans Day, contained personal information, including Social Security numbers, of as many as 12,000 medical patients. In a statement, Buyer said that he would "find out why VA policies were not followed and take whatever steps are needed" to ensure that data at the VA is better protected.

Symantec Layoffs Include Two Top Execs

SECURITY GIANT SYMANTEC has been laying off employees in an effort to reduce costs; in March, it laid off 5% of its worldwide workforce and saved around \$200 million in the process. Last month, it announced another round of layoffs, which will affect a little less than 3% of the company's global workforce but will not impact all of Symantec's business sectors. Two top executives at the company will be among the employees laid off: Vice President of Global SMB, Industry, and Partner Marketing Erna Arnesen and Vice President of Americas Marketing Marlene Williamson. Symantec didn't comment on the status of specific employees.

Senators Urge Scrutiny Of Google/DoubleClick Deal

Two U.S. SENATORS—Wisconsin's Herb Kohl and Utah's Orrin Hatch—issued a statement asking the Federal Trade Commission to seriously investigate the potential outcomes from Google's planned purchase of DoubleClick. The two senators, who are members of the Senate's antitrust committee, said, "We believe that this deal raises fundamental consumer privacy concerns worthy of serious scrutiny." They note that Google has a dominant position in Internet contextual advertising, and DoubleClick has a leading position in Internet display advertising. Google announced its intent to purchase DoubleClick for \$3.1 billion in April. The European Commission has already said it plans to investigate the deal.

HP Posts Q4 Profit

HP RECENTLY REPORTED its financials, which show a quarterly profit for the company, led in large part by an improvement in its software business. For the fourth quarter, which ended Oct. 31, HP reported net earnings of \$2.3 billion, or 86 cents a share, compared to \$1.9 billion in net income during the same quarter a year ago. Q4 earnings beat Thomson Financial analysts' estimates of a net income of \$2.184 billion and earnings of 82 cents a share. Fourth-quarter revenue for the company was \$28.3 billion, up 15% over last year.

WATCH THE STOCKS

This information provides a quick glimpse of current and historical stock prices and trends for 15 major companies in the technology market.

Company	Symbol	Year Ago	Nov 19 \$	Nov 28 \$	% change from previous week
BEA Systems	BEAS	\$14.01	\$15.68	\$16.06	▲ 2.42%
Computer Associates	CA	\$21.94	\$25.50	\$24.92	▼ 2.27%
Cisco Systems	CSCO	\$27.25	\$29.43	\$28.05	▼ 4.69%
Dell	DELL	\$26.84	\$26.62	\$27.69	▲ 4.02%
Electronic Data Systems	EDS	\$27.07	\$20.25	\$20.37	▲ 0.59%
Google	GOOG	\$484.85	\$625.85	\$692.26	▲ 10.61%
HP	HPQ	\$39.86	\$49.44	\$50.73	▲ 2.61%
IBM	IBM	\$93.51	\$102.22	\$107.37	▲ 5.04%
Intel	INTC	\$21.22	\$25.17	\$26.19	▲ 4.05%
McAfee	MFE	\$29.51	\$35.70	\$39.32	▲ 10.14%
Microsoft	MSFT	\$29.33	\$33.96	\$33.70	▼ 0.77%
Oracle	ORCL	\$19.28	\$20.53	\$20.51	▼ 0.1%
Red Hat Software	RHT	\$17.13	\$18.91	\$19.56	▲ 3.44%
Sun Microsystems	JAVA	\$5.65	\$19.63	\$20.86	▲ 6.27%
Symantec	SYMC	\$21.15	\$17.41	\$18.22	▲ 4.65%

NOTE: This information is meant for reference only and should not be used as a basis for buy/sell decisions.

Webroot To Acquire Email Systems

WEBROOT, A VENDOR that sells antispyware program Spy Sweeper and other security software, has announced it will purchase Email Systems, a UK-based company that provides email and Web protection and data archiving management services. Email Systems' customers include more than 1,500 companies, and its services are currently protecting 2.5 million email mailboxes worldwide. With the acquisition, Webroot will get a new software-as-a-service product line to complement its security products; it plans to market Email Systems' Internet-based services as Webroot Email Security SaaS. Webroot also said its technical support services will support all of Email Systems' existing customers.

Holiday Season May See 50% Spam Increase

THE 2007 HOLIDAY RETAIL RUSH may bring with it 50% more spam than the current level, according to researchers at MX Logic. If the company is right about the spam spike, the spike will mean spam levels are 200% higher than they were in January. MX Logic also says the Storm Worm may make a comeback as cyber criminals use botnets in their spamming. MX Logic says the holiday spam spikes at the end of the year often foretell the spam levels for the next year, as the company usually sees spam levels drop briefly and then plateau at a higher level.

Lenovo Building Factory In Poland

LENOVO ANNOUNCED ITS PLANS to build a new factory in Poland as part of its efforts to bring its manufacturing operations closer to its expanding customer bases. The \$20 million, 30,000-square-meter factory will be built in Poland's Legnica Special Economic Zone and support customers in Europe, the Middle East, and Africa. Lenovo expects to have the factory up and running late next year; it will employ about 1,000 workers and be initially capable of producing about 2 million PCs a year. This year, Lenovo also has announced plans for new manufacturing plants in China, India, and Mexico, along with a fulfillment center in North Carolina.

IBM Supercomputer Sets Record

IBM'S BLUE GENE/L supercomputer delivered a sustained performance of 478 teraflops, or trillion calculations per second. The computer, located at Lawrence Livermore National Laboratory, topped the TOP500 Supercomputer Sites list for the fourth year in a row. IBM, which had a total of 232 supercomputers on the list, also took second place with its Blue Gene/P computer. The Blue Gene/P system is located in Germany and was clocked at 167 teraflops. This was the first year computers on the TOP500 list were also ranked according to energy efficiency on the Green500 list; IBM systems placed in 26 of the top 27 spots.

Internet Running Out Of Capacity

ACCORDING TO A RECENT STUDY by Nermes Research, by 2010 the Internet could be overloaded by continually increasing consumer and corporate use, leading to brownouts. In order to avoid reaching this capacity, backbone providers need to invest up to \$137 billion in new capacity, which is more than double what service providers currently plan to invest, the study noted. The study also reported that it's the first to "apply Moore's Law (or something very like it) to the pace of application innovation on the 'Net.' The study was funded by a group including Fortune 2,000 enterprises, vendors, service providers, and nonprofit groups.

Upcoming IT Events

- JANUARY -

Storage Visions 2008 Conference
January 5-6
Las Vegas, Nev.
www.storagevisions.com

Florida Educational Technology Conference

January 22-25
Orlando, Fla.
www.fetc.org

WCA International Symposium & Business Expo

January 29-Feb. 1
San Jose, Calif.
www.wcai.com

- FEBRUARY -

SCALE 6x - 2008
Southern California Linux Expo
February 8-10
Los Angeles, Calif.
www.socallinuxexpo.org

Comptel Plus Spring 2008 Convention & Expo

February 24-27
Nashville, Tenn.
www.comptel.org

- MARCH -

Gartner Wireless & Mobile Summit
March 3-5
Chicago, Ill.
www.gartner.com/it/summits/ra11/index.jsp

Secure IT Conference

March 4-6
San Diego, Calif.
www.secureitconf.com

Help Desk Institute Conference

March 9-12
Dallas, Texas
www.thinkhdi.com/hdi2008

VoiceCon

March 17-20
Orlando, Fla.
www.voicecon.com

Boston SecureWorld Expo

March 26-27
Boston, Mass.
www.secureworldexpo.com

Data Center World

March 30-April 3
Las Vegas, Nev.
www.afcom.com

- APRIL -

FOSE
April 1-3
Washington, D.C.
www.fose.com

Gartner Business Intelligence Summit

April 1-3
Chicago, Ill.
www.gartner.com/it/page.jsp?id=502607&tab=overview

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SIX QUICK TIPS

Making Load Balancing More Accessible & Affordable

by Drew Robb

LOAD BALANCING IS ALL about balancing workloads between multiple servers and devices. In essence, it distributes processing and communications traffic evenly to prevent one device from becoming a bottleneck that slows down the network. Companies, for example, commonly use load balancing gear along with several Web servers to prevent Web site overload.

Here are some tips to make load balancing more accessible and affordable.

Examine Traffic Flows

Before deploying load balancers, it is important to examine what existing traffic flows look like. Is there only a need to perform outbound load balancing, or are both inbound and outbound load balancing called for?

"Inbound load balancing is mostly useful for companies that have presence on the Internet and have servers (Web, other application servers, extranets, VPNs, mail, FTP, etc.) hosted at their premises," says Manuel Alvarez, general manager of Alvaco

Networks (www.alvaco.com). "Inbound load balancing is a robust, cost-effective means to increase the availability of those services."

Inbound load balancing can be done in several different ways, including the use of DNS (Domain Name Server) technology, multilayer switching, and various other

Before deploying load balancers, it is important to examine what existing traffic flows look like.

schemes. When it is based upon DNS, the load balancer must become the SOA (Start of Authority) or authoritative DNS server for the domain. From this point on, when someone in the open Internet performs a query to find the IP of a host related to the domain, that query comes to the load balancer. After calculating the best line to receive incoming traffic, it offers the corresponding IP.

Keeping Costs Down

Load balancing can get expensive. Therefore, it is imperative for IT managers

to match load balancers to application requirements.

"The best way to integrate a load balancer into the network is to take an application-specific approach," says Sean Heiney, product manager at Barracuda Networks (888/268-4772; www.barracudanetworks.com).

The good news is that prices have come down, and a wide range of affordable products is now available. But there are still points to watch for. Can the load balancer be installed within minutes, or does it

require expensive onsite installation services? Are there per-port or per-server fees that can hamper application deployment?

"The commoditization of the load balancing market has delivered comprehensive and affordable load balancers to meet most application high-availability objectives," says Heiney. "Now that expensive pricing isn't restricting the adoption of server load balancing, it is easier to deploy more applications and servers."

Another way to keep costs down is to deploy solutions that operate at Layer 2 of the OSI Model.

"This type of implementation will prevent various types of programming and is usually compatible with any brand of firewall and router," says Jean Pascal Hebert, vice president of business development at Elfiq Networks (866/633-1227; www.elfiq.com). "With a Layer 2 approach, this process is almost a drop-in type of implementation."

Sensible Design

When considering load balancing technology, the critical first step is to design a network topology that works well with the load balancing equipment of choice—take into consideration the location of the servers in relation to the location of the load balancers when designing the network topology. For example, setting up the load balancer in routed mode (using two interfaces with the load balancer acting as the servers' default gateway) typically is the most efficient for packet processing. However, direct management of the servers could be difficult if the network topology is not properly designed.

"There is not one best method of deployment for everyone, so users need to weigh the pros and cons to determine what will work best for their network environment," says John Huang, senior systems engineer

for A10 Networks (408/325-8668; www.a10networks.com). "Make sure you consult with your load balancer vendor in the preplanning stages during the network topology design process to ensure a successful installation."

Consider File Load Balancing

File-based load balancing is a relatively new technology that allows you to dynamically share file storage-related load among multiple physical file storage devices in order to overcome the limitations of those individual devices. For example, a physical file storage device might have a file system limitation of 16TB, yet a particular application might require more capacity. File-based load balancing could be used to pool multiple file systems together to create a virtual file system that appears larger than 16TB to the application.

"This is a technology which can help out in cases where you might be running into constraints associated with physical file storage devices such as file system size or

BONUS TIPS

Deploy in pairs. Another sensible tip for IT managers that is especially important for network integrity is to deploy load balancers in pairs. By having two load balancers together, organizations can better achieve their availability objectives, thus providing a safeguard against server failure.

Plan for capacity. With Internet access becoming faster and cheaper, appropriate planning needs to be done regarding the number of lines to have and the throughput expected on those lines. Both parameters are key in selecting a load balancer. And as Web sites rarely shrink in size, it is important to plan ahead over a two- to three-year time frame to allow for expected traffic increases.

throughput," says Nigel Burmeister, senior product marketing manager for F5 Networks (www.f5.com). "Disrupting critical applications or users to provision new storage as well as performance bottlenecks in the file storage infrastructure are symptoms that could indicate dynamic file load balancing might be beneficial."

The attractive thing about this technology is that it doesn't require network changes. It runs over your existing IP/Ethernet infrastructure and uses standard CIFS (Common Internet File System) and NFS (Network File System) protocols. As a result, demand for file storage capacity is growing, as it is one answer to the puzzle of how to manage a lot more storage without increasing IT headcount. □

SMART TIP:

Support Is Essential

As load balancers tend to rapidly become key components of a network infrastructure, it is essential to have easy access to qualified engineers/technicians to receive the appropriate help.

"Some of the programming aspects in a load balancer may be very similar to those of a broadband router or a firewall," says Manuel

Alvarez, general manager of Alvaco (www.alvaco.com). "However, other aspects will require expert advice."

For instance, load balancers may have to be set up to deal with certain traffic and ignore others. VoIP should probably stay away from load balancing to ensure voice quality. Similarly, VPN traffic may have to be isolated.

BEST RETURN ON INVESTMENT:

Negative Gain

Load balancing doesn't so much generate income as prevent income losses. The easiest way to determine payback for a load balancer, therefore, is by comparing potential loss of sales/productivity should the IT infrastructure become unavailable vs. the cost of the investment.

One way to estimate this is by calculating the revenue per hour produced by the company divided by 2,000 (250 working days at eight hours per day). Then estimate the number of

hours annually that the Internet is either down or degraded.

That gives an idea of how much it costs annually in downtime, and the figure can be compared against the investment required for a load balancer along with additional lines.

"Most of the time, if the company is really dependent on the Internet to deal with clients, load balancers will have a very quick ROI," says Alvarez.

NETWORKING & VPN

NOVEMBER 2, 2007

Geographic WAN Link Balancing

Elfiq Link Load Balancer Lets You Better Manage Traffic & Meet Your Budget

ELFIQ NETWORK'S Link LB (Link Load Balancer) 1500E is the next-generation model of rackmount entry-level link load balancer supporting up to eight WAN links and 150Mbps of WAN throughput. It supports hardware LAN failover and requires less than 25W of power consumption.

The LB-1500E redefines the entry-level rackmount field by providing an unmatched functionality/price/performance ratio and differentiates itself from the competition by operating at the data link network layer (Layer 2 inline/transparent operation) to



manage synchronous or asynchronous telecommunication links. Elfiq Link LB implementation is simple and does not require IP address migration or changes to firewalls or routers. This approach prevents the use of complex protocols, such as Border Gateway Protocol, to support multiple links and reduces implementation projects.

The Elfiq Link LB guarantees optimal access for your network and applications

for business continuity, while optimizing your multihomed network throughput. If a link fails, the Link Load Balancer will effectively redirect network traffic toward other links based on user-defined policies.

Advanced functionalities such as GeoLink geographic load balancing make the Link LB a key element of disaster recovery projects and ensure maximum availability to the enterprise's IP services. Traffic will continue flowing between sites when a site goes down, and geographic policies clarify what kind of traffic or IP service is allowed to use another site.

For point-to-point resiliency implementations such as VPNs or VoIP, Elfiq's Best SitePathMPTX technology monitors alternate paths and their effective bandwidth and redirects the packets through the best available path. The Link LB gathers metrics and

real-time bandwidth usage; this information can be encrypted and shared between two balancers for redundant implementations.

Elfiq Link Load Balancers are built around the Elfiq Operating System, and the hardware platform is fanless and has no moving parts. In addition, it produces little heat, reducing the risk of failures.

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Evaluate & Improve Your Security Defenses

How To Know If Your Security Strategy Is Working Properly

by Elizabeth Millard

MAKING SURE NETWORKS AND DATA are secure is a top priority for every company, regardless of size, and it would be tricky to find a firm that didn't have at least some controls in place. But as many data center managers know, security is an ongoing challenge, and it seems that there are always new products and consultants promising more bulletproof systems.

Although there's no single solution (unfortunately) that can give absolute security, there are ways to evaluate and improve security defenses without busting the budget. Here's part of the game plan.

Evaluate The Amount Of Effort Involved

If an IT manager is spending the majority of the day on security, then the strategy is likely ineffective, notes Eric Skinner, CTO of security firm Entrust (www.entrust.com). "Security is often a combination of written policy and software, and what you have to look at is the level of automation that's involved," he says.

Evaluating security first involves looking at the layers and making sure they're connected and working well together, he notes. Each tool should complement each other and build on the strength of other tools. For example, Skinner notes, email encryption leads to disk encryption, and so on. "You should have a variety of technologies working together to plug the holes," he says.

Take Users Out Of The Equation

No matter how well-intentioned employees might be, asking them to encrypt their email attachments or refrain from inappropriate downloads shouldn't be part of a security strategy, according to Skinner. "It's just human nature," he says. "If your job is to design widgets or balance the books, any kind of security policy that requires user action will be a distraction."

The more automated and in the background a security strategy might be, the less likely it is that users will be an issue. Skinner suggests content-monitoring software that can give quick visibility into whether inappropriate content is leaving the organization, for instance. "For SMEs in

high-priority information is at risk," he says. Once there's a list of potential problems, an IT manager can start thinking about their costs, in terms of the degree of harm that a given security incident might cause and the probability or frequency of such events.

"There's a huge variety of security products available, but a product is only worthwhile if it addresses a risk an organization is unwilling to tolerate in a cost-effective manner," says Engel. "The true cost of security solutions can be subtle; however, there's the up-front purchase price, and there is also the recurring cost of monitoring and managing the system."

The time spent learning an intrusion detection engine's alerts should be factored in, for example, although it generally far outweighs the cost of getting the system installed.

Maximize Free Security Tools

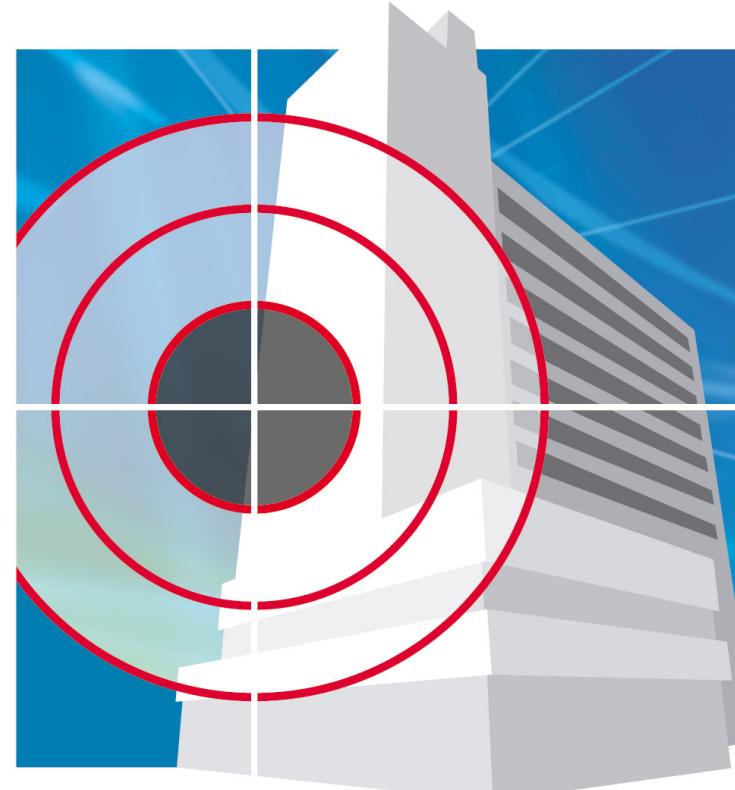
Although "free" can sometimes translate to "labor-intensive," there are some tools in the marketplace that can be helpful, particularly for specific tasks such as creating logs or monitoring networks. Skinner suggests that even before downloading them, though, a company should evaluate its level of in-house expertise.

"Obviously, free tools don't come with technical support, so you have to have the skills to handle support issues," he says. "The bigger question is: Will the tool make the environment more secure in an automatic way or just create more work? If the expertise is in place and the automation, then the tools can be helpful. And the price is certainly right."

Tune Your Vendor Mix

An organization should avoid putting all its eggs in one basket, Engel believes, and can find more strength in a mixed environment. The theory is that a security flaw in one vendor's products won't affect other brands. But the challenge has been cost of ownership—maintaining a variety of systems, with contracts and training, is more expensive than installing a single family of products.

A better approach might be to strike a balance between products and services, Engel says. Instead of choosing between products



particular, there are issues that have sprung up unexpectedly, like people suddenly turning on a bunch of capabilities like remote access," he says. "Smaller companies sometimes haven't had the time to think through the implications of actions like that."

Understand What You Need

Figuring out which security features are necessary and which can be discarded is a big question, says Peyton Engel, security specialist at CDW Berbee (www.berbee.com).

The first step is to prioritize the risks that the organization needs to defend itself against, he notes. In general, it won't be feasible to address all risks and will be impossible to fully eliminate many of those that do get addressed.

The next step is to conduct some form of assessment to measure the extent to which

Action Plan

Bryan Harkins, training and development manager at AirDefense (www.airdefense.net), offers the following step-by-step recommendations for SMEs trying to improve their wireless security.

1. Update the firmware on the APs (access points) and on all of the STAs (stations).
2. Change the administrator's password to a very complex one that you can remember and/or document.
3. If the AP allows you to do so, change the name of the administrator's account.
4. Disable DHCP (Dynamic Host Control Protocol) on the LAN side of the AP and use Static IP addressing on the STAs.
5. Change the default IP address of the AP to something that will work for your STAs.
6. Use the strongest authentication and encryption that the AP and STAs can all use.
7. Turn off the broadcasting of the SSID (Service Set Identifier) in the Beacon frame.
8. Use a nondefault SSID that neither identifies you, your business, your location, or the location of the AP.
9. Place a space or two at the end of the SSID. (War drivers will not see them.)
10. Implement a MAC filter allowing only your STAs to connect.
11. Turn the transmit power down on the AP to just what is required for desired coverage.
12. Use a nonoverlapping channel, preferably not channel 6.
13. Change your PHY (physical layer device) to 5GHz if possible.
14. Use antispyware on your STAs.
15. Use a personal firewall on the STAs.
16. Use endpoint protection software if possible.
17. Install the AP in a physically safe location.
18. Do not disclose your configurations to others.
19. Limit the number of allowed associations to just your STAs.
20. When not in use, turn off the AP.
21. If there is a breach in security, change all security settings as soon as possible.
22. If you are unable to configure the AP securely, consult a trained and certified professional to do so on your behalf.

that will be owned and maintained in-house, he suggests integrating some remote-managed security services into the blend. "These services are becoming an attractive proposition in the current market because they allow SMEs to take advantage of the investments that larger operation centers have made in terms of economies of scale," he says. As a result, features such as sophisticated event management systems, round-the-clock monitoring, and proactive maintenance are now available for many SMEs. □

NETWORKING & VPN

NOVEMBER 16, 2007

Citrix Unveils On-Demand Provisioning Server

Platform Enables Monitoring & Management Of Virtual Environments

VIRTUALIZATION has expanded rapidly throughout data centers, providing businesses with a tool for consolidation and optimization. The technology is also upping the ante on management. Citrix Systems has introduced its Provisioning Server, intended to reduce that complexity by providing on-demand provisioning of virtual and physical machines from a central location.

"Monitoring and managing these virtual environments is not as easy as it might appear," says Bala Murugan Vaidhinathan,

chief architect for Citrix. "You might reduce the number of pieces of hardware from 20 to one, but within the virtual environment, on that single piece of hardware, there are now 20 operating systems running. You've potentially put all your eggs in one hardware basket, and it needs to perform."

The Provisioning Server is based on the OS-streaming technology developed by Ardence, which was acquired by Citrix in January. The system allows for a more agile and cost-effective delivery of applications

and desktops and is expected to be used to complement technology from the recently announced Citrix acquisition of virtual infrastructure specialist XenSource.

"A lot of businesses have tried virtualization to some degree for a certain application, and often it may not have panned out as planned. They find they're not getting enough performance, and they just go back to single server mode," Vaidhinathan says. "There is not enough time and persistence to fix the problems."

Many of the mechanics of managing virtualized environments are similar to central management of sets of thin-client terminals, he says, a technology with which Citrix has a long history. The platform itself has been in development for about six years.

"We are very effective in understanding the mechanics of virtual environments,"

Vaidhinathan says. "In Citrix (terminal) platform you have one single OS being shared by 20 different users. Within today's virtual environments, you've got one piece of hardware being shared by 20 different operating systems."

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Implementing Unified Communications

Know If A Change Is Right For Your SME

by Don Reisinger

IMPLEMENTING A UNIFIED communications infrastructure is one of the most important, yet costly, endeavors any data center manager will be forced to endure. As the need for constant communication in the workplace continues to rise, IT managers are forced to find new ways to make sure everyone in the office is available at any given time. And while it may be much easier to implement than believed, it is still one of the more costly projects any company will be faced with. But with the help of third-party solutions such as a unified communications platform, both difficulty of setup and high costs can be drastically reduced.

Do We Really Want A Unified Communication System?

The first thought that any data center manager should consider is simply, "Should we implement a unified communications system?" If a company has fewer than 10 employees and most of those employees are readily available, the need for a unified communication system is probably minimal. But as a company grows and employees are at home and abroad, the need for a unified communication system is greatly increased.

But as a company representative from Zultys (www.zultys.com), a company that develops and implements VoIP into data networks, explains, "Some small to mid-sized enterprises want to level the playing field and be thought of in the same class as the 'big boys.' And certainly one way to do that is to have the same tools that enterprises have—a sophisticated auto attendant to tend the caller's needs, an interactive voice response (IVR) system to prescreen phone,

Action Plan

1. **Planning.** Do you really need a unified communication system? If so, where do you want to start?
2. **Evaluation.** What are the most important areas of improvement?
3. **Implementation.**
4. **Service and support.** How to use it, and what will happen if something goes wrong?
5. **Start planning for the next phase.**

or CRM/call center software to help manage sales opportunities."

On the other hand, some companies may wish to implement unified communication systems to maximize employee efficiency. As Denny Michael, vice president of marketing at AVST (www.avst.com), a company that specializes in developing communications for businesses, points out, "Companies can improve employee productivity and thus improve customer service by making employees more accessible and reducing human latency from the business. On top of that, those same companies can support their mobile employees by providing productivity tools to this segment of the workforce that enable them to stay in touch, be responsive, and be productive."

We Want To Do It. Now What?

If your company is ready to implement a unified communications system, it next needs to evaluate a host of issues before the project can begin.

According to Michael, unified communications is not a single project in and of itself, and it should not be evaluated as such. His company believes that, "Unified communication deployment is not a single project. It consists of telephony, messaging, call processing, instant messaging, presence, conferencing and collaboration, notification, and business process integration."

Because of that, Michael believes it is incumbent upon all data center managers to evaluate the company's objectives, what kinds (if any) of unified communication systems are currently in place and how they might be improved, what the unified communication priorities are, and how well unified communications satisfy unrelated company strategies such as security, compliance, and disaster recovery.

Let's Get It Started

Now that you have evaluated your company's needs and know how you would like to implement a unified communications system, a number of solutions are available to do just that.

Zultys is a company that specializes in implementing the unified communications system itself. Because of this, most of the

work that would have otherwise been performed by a data center manager is actually performed by the Zultys team. With that in mind, implementing a Zultys system



can be extremely efficient and relatively cost effective.

According to the company representative, the implementation phase of a Zultys installation revolves around two main components: knowing what the IT administrator is looking for in the system and knowing what the C-level (CEO, COO, CTO) personnel want out of the system. Because of this, the company provides end-to-end solutions that run on SIP (Session Initiation Protocol), which allow IT managers to find more cost-effective equipment to run on the protocol while addressing the C-level need of a return on investment.

On the other hand, AVST believes unified communication implementation is a multistep and a multievent process. Instead of integrating a unified platform all at once, AVST believes unified communication systems can be focused on retrieving phone calls and forwarding those calls to mobile phones, or those same systems could involve messaging. Either way, the company feels unified communications is a far broader topic than some others.

With that in mind, implementing a unified communications system in this context is not a one-time event. Instead, AVST would

recommend finding areas where improvement is necessary and allocating resources to those areas as needed. For example, IT managers could use AVST's CallXpress system, which supports Microsoft Exchange (www.microsoft.com), IBM Lotus Notes (www.ibm.com), or any other IMAP-compatible email to create a unified messaging system throughout an enterprise.

That said, the company also believes that using just one vendor is not always best. According to Michael, "Unified communication is ideal for a best-of-breed approach because of how broad the technology is.

Therefore, it is best not to get locked into a single-vendor solution that will prohibit you from deploying the best solution in each product segment."

What Features Are Most Important?

Although there are a variety of options, some features are far more important than others. For example, most communication companies believe a presence system is a must-have for any unified communication system. In effect, "Presence will consist of desktop status, phone status, calendar availability, location status, skills status, etc. Presence will be used to negotiate real-time conversations to minimize the amount of time it takes to

communicate with the right person in order to complete a task."

Conferencing is another important element that companies are deploying for one simple reason: With the ability to have voice and video messaging at their disposal, companies can save a large sum of capital in traveling and lodging, and important meetings can be held with people thousands of miles away.

Finally, smartphones have ushered in a new way of getting in touch with employees who are on the road—mobile messaging. According to both AVST and Zultys, mobile messaging is one of the most important elements of any unified communication system, as it creates a far more efficient workplace.

Unified communications is an important component of any enterprise. As the nation's economy continues to expand and become more global, it is incumbent upon companies to find the most effective ways of implementing communication systems that will keep employees and other stakeholders constantly in touch. And because most unified communication systems yield a positive return on investment in just three years, most executives realize that it represents the wave of the future. P

CLIENT SOFTWARE

NOVEMBER 16, 2007

Instantly Search Terabytes

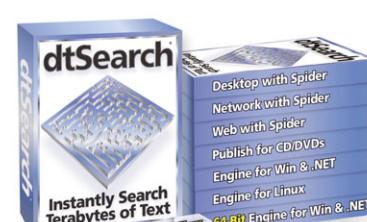
dtSearch Can Scan Terabytes Of Data In A Variety Of Formats

TODAY'S ENTERPRISES are filled with vast amounts of data in a variety of formats in seemingly endless numbers of locations. Finding the information you need can be daunting, which is where programs such as those from dtSearch can be essential.

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Vista Voyage

Continued from Page 1

volume's integrity is checked when the system boots, helping to prevent unauthorized access.

Vista also brings a wide range of manageability enhancements, including several hundred new group policy settings that managers can use to configure desktop environments. "These policies can be used by administrators to further reduce the security threat surface area of the desktop operating system, compared to Windows XP," explains Gary Darbyshire, director of enterprise infrastructure at Avanade (www.avanade.com).

Plan For Action

Considering that Vista's first service pack won't be released until early next year, current Vista users are considered early adopters, even now. The transition to Vista will be easier once SP1 does arrive, but SMEs must still perform thorough evaluations before embarking on the upgrade. According to Darbyshire, this pre-Vista evaluation should entail a five-step process.

The first step is what he calls "application rationalization." Companies must analyze all of their business-critical applications in terms of Vista compatibility (including whether they can be installed and if they're stable) and in terms of compatibility with the Vista security configura-

tion they choose, Darbyshire says. Another step is determining hardware compatibility, which verifies whether existing hardware meets Vista requirements.

"Once this is done, an organization can create a plan to, one, upgrade specific hardware elements or, two, replace the hardware," Darbyshire says. "Avanade suggests an organization look at existing hardware depreciation schedules and plan a hardware refresh and Vista upgrade that is aligned with it for improved desktop life cycle management."

The hardware evaluation phase can be a very time-consuming process, but it must be accomplished to avoid surprises when Vista arrives. "Unless the SME has an automated way to collect information about the existing memory, its configuration in the box, and whether there are slots available for the upgrade, this is a very labor-intensive process," says Chris Tamblyn, CEO of matrix42 (www.matrix42.com).

Also key to the pre-Vista upgrade process is an evaluation of the current support organization. Darbyshire says that Vista implementation is likely to spark an increase in support calls, so enterprises should examine their existing skills, processes, and SLAs (service-level agreements) so they can plan for appropriate Vista support.

The two remaining elements that managers should address, Darbyshire says, are training, in which evaluations are performed to determine how much training is

necessary to get users up-to-speed with Vista, and the overall desktop life cycle, a process that aligns with the organization's hardware depreciation cycle and business objectives.

CA's Gentry notes that it's also important to determine well in advance which Vista edition will be used because this can impact a wide range of preparation details.

Deployment Day

When the Vista preparation is complete, the level of difficulty for the actual upgrade depends on whether a company is replacing existing machines or upgrading existing machines. In either case, Kaplan says, user data must be backed up to a network location and then restored to the upgraded machines.

According to Gentry, tools are available that can automate the tedious process of transferring user data and settings to upgraded machines. "If a number of different tools are used, the process decided upon should be integrated and automated as much as possible," Gentry says. "Automation decreases errors and the time it will take to accomplish a successful deployment."

In the case of a larger installation base, creating a proof of concept can help SMEs avoid potential pitfalls when performing the upgrade across the entire organization. Tamblyn says this proof of concept should determine how to distribute the operating system and applications—for instance, if

Action Plan

Upgrading to Windows Vista (www.microsoft.com) represents a major undertaking, but following these steps from Avanade's (www.avanade.com) Gary Darbyshire, director of enterprise infrastructure, can help make the project a success.

1. Application rationalization
2. Hardware rationalization
3. Evaluate the overall desktop life cycle
4. Perform image development
5. Perform infrastructure training
6. Conduct end-user training
7. Gauge support readiness
8. Conduct communication planning
9. Determine deployment logistics
10. Conduct the deployment pilot
11. Perform acceptance testing

imaging is used, images will need to be created for varied systems. Also included in the proof of concept is a pilot, in which Vista is rolled out to subset systems in a production test, and rollback planning, just in case.

After the actual upgrade, experts recommend communicating heavily with the user base to receive feedback and provide necessary assistance and training. For example, satisfaction surveys can be distributed and compiled to determine areas of weakness that support personnel can focus on to improve user satisfaction. □

VoIP Security Risk Alert

Continued from Page 1

money you are going to save, and all of this fun stuff, yet they are not addressing security [for VoIP]."

The Revenge Of The SIP

SIP was created for interactive communications between users involving voice, video, chat, and other exchanges through

the applications layer of the OSI (Open Systems Interconnection) reference model. SIP is also the protocol on which the exploding adoption rate of VoIP telephony is based. Like most communications protocols, SIP was designed for easy and straightforward implementation, while less attention was paid to locking down potential security flaws.

SIP Protection Offerings

SIP protection does exist. Juniper Networks (www.juniper.net), for example, offers the SSG 5, which the company says prioritizes VoIP traffic over a WLAN and offers Screen-OS real-time, which is a security-specific operating system for the Juniper Networks firewall and VPN platforms. Juniper Networks' IDP 200 protects VoIP infrastructures by detecting and mitigating SIP attacks through the use of its recommended-policy feature in its IDP 4.1 software.

Paul A. Henry, vice president of technology evangelism at Secure Computing (www.securecomputing.com), says his firm's Sidewinder

incorporates full VoIP and SIP protections. "The anti-malware scanning works across all protocols to assign a risk value to any and all scripts that may be sent encapsulated within a given protocol," Henry says. "After normalizing encapsulated traffic, it analyzes all scripts to determine any malicious intent."

Among VoIP offerings with SIP protection from Cisco Systems (www.cisco.com) is the Cisco XR 12000, which is a router that provides session border control functions. The device offers both software and hardware support against VoIP-specific malicious attacks and provides whitelisting and blacklisting.

SIP's vulnerabilities run the gamut and can give black hats the opportunity to take control of machines, access networks, initiate denial of service attacks, or destabilize systems. A CERT advisory warned of the acceptance of INVITE messages through SIP connections that destabilize systems, provoke denial of service attacks, or give black hats remote-access capabilities.

Spamming multiple vulnerable ports with unsolicited phone calls and prerecorded messages is also an emerging threat, says Errata Security (www.erratasec.com) Chief Executive Officer Robert Graham. "The more these systems open up to the outside world, the more spam you're going to get," he says.

Taking Action

The vulnerabilities that the VoIP SIP harbors are really not so significant that admins should shutter plans to implement VoIP telephony. In fact, most admins know firsthand that nearly every protocol and communications port poses risks. For VoIP, admins can take specific measures to protect their networks' telephony connections like they do for any other application.

Worrying about how secure your network's SIP server is also depends, of course, on whether a service provider offers the VoIP service or if it runs from a server internally that you manage. You still need

VoIP SIP Threats

Voice is just as vulnerable as most communications ports. If left unprotected, black hats can use the SIP (Session Initiation Protocol) to:

- Destabilize systems
- Remotely take control of machines
- Initiate denial-of-service attacks
- Send voice-spam messages

to do your due diligence if you rely on a service provider.

"If a server is inside your company, then I would look to protect it. If it is a server that your service provider gives you, then you might want to ask the service provider what kind of protection they offer over the SIP server," says Avishai Avivi, director of the security engineering and research group at Juniper Networks (www.juniper.net). "But how many service providers have protection and whether or not you can rely on it is a subject of debate."

If your VoIP server sits behind your network, it's up to you to select the right firewall, while only a few vendors offer SIP protection. "Your basic firewall won't do much," Avivi says. "What you need is something that can really understand the SIP protocol." □

NETWORKING & VPN

NOVEMBER 16, 2007

Better IP Address Management

New Infoblox Appliance Keeps It Simple, Central

TOO OFTEN, managing IP addresses involves spreadsheets, manual processes that ultimately lead to mistakes or being blown off for more business-critical tasks. Thus, it's prudent for SMEs to automate such processes so their limited IT staff can focus on more business-critical operations.

Infoblox announced the Infoblox IPAM WinConnect system, an IP address management appliance with integrated software support for Microsoft DNS and DHCP services that automates the often times tedious processes related to administering IP addresses. It's important that



SMEs should consider the impact of automating the administration of their IP addresses when considering this solution.

With the IPAM WinConnect, SMEs can manage DNS, DHCP, and IPAM from a centralized console through a GUI offering graphical and hierarchical representation of the IP map and view detailed audit logs providing administrative audit trails. If your

SME has to comply with compliance programs, IPAM WinConnect's reporting capabilities will be a boon around auditing time. It also automates data backups of your IP address data under management.

The power of IPAM WinConnect is the detailed audit logs providing administrative audit trails for regulatory compliance. The audit logs offer insight into historic and current IP usage, as well as automatic discovery of IP devices on the network. Moreover, delegated administration provides granular, role-based administrative ownership where it is most appropriate while protecting the network as a whole.

Infoblox is already an established appliance vendor, and the IPAM WinConnect runs on reliable, security-hardened Infoblox appliances running NIOS™ software for simplified installation and easy software

updates. It also offers automated backup and restore to enable high uptime and eliminate data loss. It is agentless and does not require any modifications to existing Microsoft DNS/DHCP infrastructure for seamless installation and minimal maintenance.

Infoblox IPAM WinConnect

Secure appliance-based IP address management solution that automates what is traditionally a tedious and manual process

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Going Green In The SME

Looking For Ways To Save Energy & The Environment

by Robyn Weisman

GREEN HAS REACHED THE TIPPING point. Sure, the environment has been a latent concern for years, but nowadays news Web sites feature article after article about global warming; a block of NBC comedies have a "green" theme; and Facebook partner Green Gifts offers virtual alternative cars and CFL light bulbs, among other items, for its users to send to their Facebook friends.

But what does going green mean for your SME? Does it make sense financially to establish green initiatives? What steps can your organization take to put these initiatives into action?

Your Remote Access Strategy

When people think about remote access strategies, they imagine a worker padding around the home office wearing pajamas and a sweatshirt or alternating between compiling a set of financials and children's T-ball practices. But increasing the scope and frequency of your remote access strategy does more than offer flexibility and perhaps a better quality of life. It is a major energy saver both in community terms and in terms of your organization.

Chris Witeck, director of product marketing at network solutions provider SonicWALL (www.sonicwall.com), says that if businesses encouraged all of their

employees to work from home one day per week, gasoline costs would be cut down dramatically. While this drop in petroleum use might not directly affect businesses' bottom lines, it does allow employers to lay claim to the "green" angle with their employees and the community, something that could matter depending on their location, Witeck says.

But adopting a remote access strategy makes sense financially, as well, Witeck says. Job commutes, for the majority of workers, are just a headache, with employees spending hours every day stuck in traffic—hours that could be better spent working. And continuing advancements in broadband, VoIP, Webconferencing, and other remote-access technologies makes the ability to work from home (or a local Starbucks) more seamless than ever before.

And if your sales contingent is working, say, two days a week outside of the office, you can institute space and energy savers, such as assigning two employees to one desk. Because most applications and information are now being stored on the server,

employees no longer need to be tied to one desktop. If you cut down your footprint, you need less equipment to run the physical office, which will translate into energy savings fairly quickly. Even employees who need to have a daily presence in the office benefit from this remote strategy because if they have additional work to do, they can burn their own midnight oil rather than yours.

The Legal Aspects Of Being Green

Bob Houghton, CEO at TCM (technology change management) provider Redemtech (www.redemtech.com), says that an environmental management policy needs to be incorporated into your overall planning and purchasing strategy because once a product is taken out of use, issues of liability and adherence to regulations become as important as environmental ones.

Houghton explains federal-level environmental policy has a peculiar tendency of being retroactive. In other words, you may have followed 2007 disposal and recycling regulations to the letter, but in 2012 the laws might change, making your company liable retroactively. This sort of liability is difficult to manage, so it is important to prognosticate the most stringent environmental management policy possible. That way, you have a better shot of being completely compliant to future regulations.

Houghton stresses that you must involve company senior management and legal counsel when formulating and deploying your environmental management policy. "Don't make these types of decisions ad hoc," he says. Leadership and IT need to

If You Have To Recycle . . .

Given that recycling is unavoidable in many cases (you can only do so much with a 15-year-old x86 desktop), Redemtech (www.redemtech.com) CEO Bob Houghton makes the following recommendations.

- Maintain complete accountability of the serial numbers of the assets being destroyed.
- Be sure to recycle or reuse all electronic scrap to keep it out of the landfill.
- Adhere to a zero-export policy because the out-of-sight, out-of-mind policy is not only socially reprehensible, but the environmental and health issues that result from such actions ultimately affect everyone, including you.

- Do not use incineration as part of the destruction process because incineration produces too many emissions to be sustainable.
- Do not use prison labor because UNICOR (the electronics recycling division of Federal Prison Industries) fails to provide accountability either for prison workers' health or for where the recycled product ends up.

Houghton says that the Basel Action Network offers a wealth of information on the impact of electronic waste and proper waste disposal and recommends it as a resource when formulating your environmental management policy.



agree on policy, understand how much risk the company is willing to shoulder, and document the organization's compliance with environmental regulations.

According to Houghton, too many organizations assume that if they recycle old equipment and obtain a certificate of destruction from the recycling outsourcer, they have done the green thing. Unfortunately, these certificates can be meaningless, both in legal and environmental terms.

"That stuff could be sent in a container to Pakistan or Malaysia," Houghton says. "You need to have a good audit trail that shows the plastic was sold here, the aluminum sold there—that provides you with unsatisfactory proof of responsible recycling."

Houghton says that the best environmental management policy is to maximize reuse of assets or portions of assets whenever possible. When assets are reused (for example, an old server finds new life as a print server), you save money, postpone legal worries, and ultimately reduce the manufacturing of new machines. □

Action Plan

- Think about your remote access strategy and consider increasing the days employees work remotely. This cuts down on fuel (both in commuting and the amount of energy used to light, heat, and cool the office) and space requirements.
- Develop and implement asset disposition policies with company leadership.
- Make sure your environmental management policy protects you from liability, now and in the future.
- Focus on reuse whenever possible.
- Don't neglect the legal ramifications of your actions.
- Consider outsourcing your recycling and reuse needs because companies that offer these services have the resources to find customers for assets you no longer use. When considering an outsourcer, make sure the company assumes legal responsibility for your asset disposition.
- Keep in mind that going green isn't just some selfless, altruistic series of steps to make the world a better place—doing so increases your organization's efficiencies and saves you money in the long (and even the short) run.

PHYSICAL INFRASTRUCTURE

OCTOBER 26, 2007

A Master Enterprise View

New ATEN KVM Bundle Provides Perfect Features For Monitoring & Maintaining Servers & PCs

TODAY'S DATA CENTERS require convenient, space-saving, streamlined KVM equipment. ATEN's 17" Single-Rail LCD Integrated Console and MasterView KVM bundle is designed with those needs in mind.

ATEN's economy LCD KVM console, CL1000M, integrates a keyboard, 17-inch LCD, and touchpad in a 1U Slideaway housing. Setup is fast and easy. There is no software to configure, no installation routines, and no incompatibility problems. Slide the console module section out and flip up the cover, and you are ready to work.

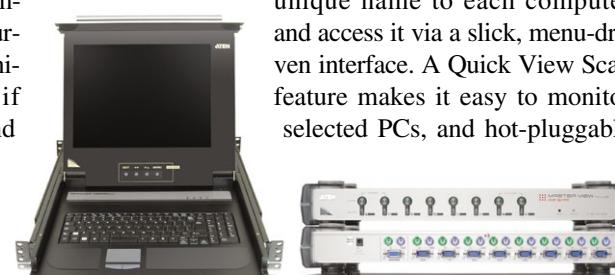
When finished, flip down the cover and slide the console module back into the rack.

By using the CL1000M to manage your installation, you save space; eliminate the expense of having to purchase a separate keyboard, monitor, and mouse for each PC if attaching to a KVM switch; and can take advantage of upgrading your current system.

ATEN is now bundling the CL1000M with an eight-port MasterView Plus,

which helps reduce the need for redundant hardware. With the MasterView Plus, you can control up to 512 computers with a single keyboard, monitor, and mouse. And it requires no software.

MasterView Plus is more than a simple eight-port KVM switch. A built-in Auto-Scan mode lets you monitor every attached computer for a specified amount of time, while the on-screen display lets you assign a unique name to each computer and access it via a slick, menu-driven interface. A Quick View Scan feature makes it easy to monitor selected PCs, and hot-pluggable



capabilities mean you can add or remove PCs for maintenance without powering down the switch. The MasterView's 1U, 19-inch rack-mountable casing and status-monitoring LEDs make it ideal for server rooms or other multicomputer environments.

ATEN 17" LCD Integrated Console & MasterView KVM (model CLCS9138MKIT)

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848vs	8	4	12	\$1,895

TALKSWITCH's new lineup of hybrid IP PBXes mean customers have even greater flexibility in designing the ideal phone system for their business.

New systems are available across each TalkSwitch series and, when combined with TalkSwitch's current lineup, provide a combination of lines, extensions, and other options for companies of nearly any size. And all TalkSwitch systems can be upgraded and networked together to a maximum of four TalkSwitch units with capacity for 32 incoming phone lines, 64 local extensions, and 32 VoIP trunks per office location.

TalkSwitch IP PBXes feature:

Easy setup. TalkSwitch installation is fast and easy, so you save time and money, regardless of whether you chose to install the system yourself or call a professional. Plus, it's simple to change settings, so you don't pay a technician every time you add or move an employee.

Phone freedom. TalkSwitch phones are tailor-made for the system. But unlike most phone systems, TalkSwitch doesn't tie you down to proprietary telephones. TalkSwitch works with any standard analog phone and selected IP phones.

External IP and remote extensions keep you connected. With TalkSwitch systems, any phone, anywhere, can be a remote extension. This includes cell phones, home phones, and phones in other offices. Calls can be seamlessly transferred and screened. Or plug a TalkSwitch IP phone in anywhere as an external IP extension for complete extension functionality.

Grow your own way. From two to 64 users per location, there's a TalkSwitch to fit every small business. TalkSwitch units come in different sizes with hybrid connections, so you choose your own mix of networks (traditional and/or VoIP) and phones (analog and/or IP).

TalkSwitch IP PBXes

A lineup of systems that can work with selected IP phones and feature easy setup and external IP and remote extensions

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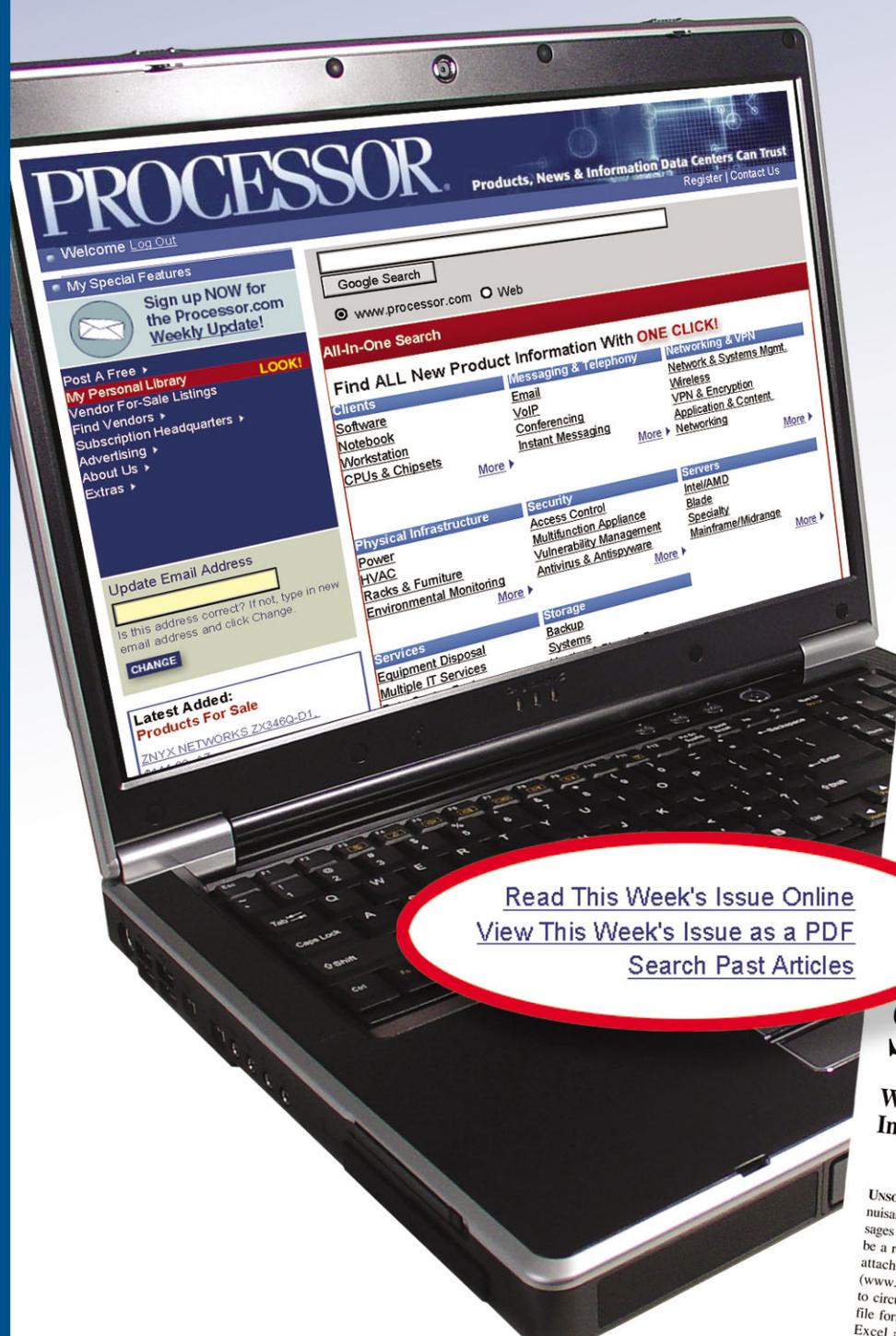
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The Backup Veteran: Tape

Does It Still Have A Place In Your SME's Long-Term Storage Strategy?

by Elizabeth Millard

ONCE A DOMINANT TECHNOLOGY for backup in data centers, tape has become just one of the choices for storage, and it has a number of critics who claim that other media, such as disk arrays and optical media, are superior. Yet a significant number of small to midsized enterprises still employ tape for backup needs, and the media has its advocates as well, who believe that it's a cost-effective and dependable strategy. For many data center managers, the use of tape will fall somewhere in the middle, many experts note: They can use tape for some forms of backup while opting for different media in other circumstances, such as for daily storage needs.

Tape's Future

A major advancement in tape in the past few years has

been LTO (Linear Tape-Open), a technology created by companies such as HP (www.hp.com), IBM (www.ibm.com), and

Creation of the spec has also driven capability. LTO-4 adds 256-bit AES encryption at the drive level and boosts performance over the previous generation. LTO-4 drives can operate at 120Mbps, and cartridges support 800GB of uncompressed capacity. They also support Write-Once, Read-Many capability, a feature designed to protect tape content.

Strategy Strengths

One of the main strengths of tape is its portability, notes Hunter Bennett, chief technology officer at Ensynch (www.ensynch.com), a provider of IT infrastructure services. Tapes can be stored offsite at another facility and perhaps even at a few different facilities that are geographically distant. *Go to Page 10*

Combating PDF Spammers

What To Do When Your Corporate Inboxes Fill Up With Unwanted Spam

by Paul Ferrill

UNSUBSCRIBED EMAILS MIGHT seem like just a nuisance, but when you multiply a few messages by every corporate inbox, it can get to be a real problem. The latest trend is to use attachments, specifically files in Adobe's (www.adobe.com) PDF format, in an attempt to circumvent the antispam software. Other file formats, including Microsoft Word and Excel and the Zip compressed file, have shown up recently, as well. The biggest problem

is the good attachments from the bad ones. In reality, it is essentially the same problem with normal email, just in a different file format. While the most popular method a few months ago seemed to be embedded images, it's clear that keeping up with the spammers can be a full-time job.

This makes the task of detecting spam using a sender's address even more difficult. Some vendors, such as Secure Computing, have developed relationships with other vendors and tools in the intrusion detection and firewall market to share real-time information in an attempt to identify

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Where Does Spam Come From?

Knowing where a bad email comes from helps simplify the job of eliminating it altogether. The trick is to identify and isolate bad addresses without blocking a legitimate message. One of the newest trends of the spammers is to use dynamic zombie botnets to blast out an enormous amount of bogus email from a wide range of addresses. Zombie computers are infected with a virus, essentially turning them into a robot at the command of their master.

This makes the task of detecting spam using a sender's address even more difficult. Some vendors, such as Secure Computing, have developed relationships with other vendors and tools in the intrusion detection and firewall market to share real-time information in an attempt to identify

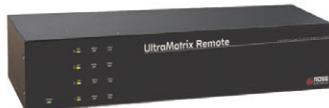
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EACH WEEK

Upcoming IT Events 4 Book
MarketPlace News 4 Prod

THE COMPETITION JUST GOT A LOT STIFFER

■ Remote Server Management



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- Supports Fiber or CATx cable
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- Supports for local KVM station
- Fully automatic KVM sharing

KVM Extenders



ViewLink™

Extends keyboard, video, & mouse up to 1000' over CATx

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Product Releases

CLIENTS

■ **Brother** introduced its DCP-9000 Series Digital Color Laser Copier/Printers. The network-ready DCP-9040CN and DCP-9045CDN digital color copier/printers use the same new single-pass laser print engine utilized in the HL-4000 Printer Series and MFC-9000 All-in-One Series. As with the other color devices sharing the same print engine, users have the option of choosing standard or high-yield replacement toners. The DCP-9000 Series features up to 21ppm print speeds for both color and monochrome printing and produces colorful output up to 2,400 x 600dpi. In addition, the DCP-9045CDN offers a USB Direct Interface for compatibility with USB flash memory drives and PictBridge-enabled cameras. The DCP-9040CN has a 35-page auto document feeder, 300-sheet paper input capacity, 64MB memory, and a two-line LCD display. The DCP-9045CDN has a 50-sheet auto document feeder, built-in auto duplex for two-sided print/copy/scan capabilities, 128MB memory, and five-line LCD display. The DCP-9040CN was released last month, and the DCP-9045CDN will be available later this month.

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■ **Fujitsu Computer Systems** introduced the LifeBook S6510 and LifeBook S7210 14-inch widescreen display notebooks. Both models are lightweight, with the LifeBook S6510 weighing just 4 pounds and the LifeBook S7210 weighing 5.2 pounds. These notebooks use Intel Core 2 Duo processors and offer a modular bay that supports a number of optional add-ons. The LifeBook S6510 and LifeBook S7210 notebooks offer a combination of physical, hardware, and software security features, including a biometric fingerprint swipe sensor, embedded TPM (Trusted Platform Module), and the integrated theft-deterrent security panel. In addition, the LifeBook S7210 offers a dedicated smart card slot. A variety of communications options are available for both the LifeBook S6510 and LifeBook S7210 notebooks, including a modem and an integrated Gigabit Ethernet LAN, the Intel Wireless Wi-Fi 4965AGN Network Connection, and optional Bluetooth wireless technology. In addition, the LifeBook S7210 notebook is available with the optional Atheros Super AG Wireless LAN.

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■ **Kyocera Mita America** has unveiled the KM-3040 and the KM-2540—two MFPS (multifunctional products) for departmental workgroups and small businesses. These machines both include copy capabilities and can add network printing and faxing, which offer customers the ability to modify document imaging solutions to meet specific business needs. The KM-3040 and the KM-2540 have output speeds of 30 and 25 pages per minute, respectively; 600 x 600dpi; and 256 levels of grayscale. Also, each machine can upgrade to 192MB of memory and includes features such as zoom, auto centering, and mirror image to boost efficiency and productivity. Also, both machines offer a maximum paper capacity of up to 2,200 sheets, and users can switch paper sizes and types with just one button either from the machine or from the desktop.

MESSAGING & TELEPHONY

■ **Sunbelt Software** has announced its email archiving solution, SEA (Sunbelt Exchange Archiver). Features of SEA

include integrated HSM (Hierarchical Storage Management), Direct Archiving, email continuity, and disaster recovery. The service also integrates with Microsoft Exchange, Outlook, and OWA (Outlook Web Access). Emails can be stored on a variety of different media, which mitigates the load on servers.

NETWORKING & VPN

■ **AdventNet** launched the latest iteration of its ManageEngine DeviceExpert, which is the firm's flagship network change and configuration management product. ManageEngine DeviceExpert 5.0 now ships with network compliance monitoring capabilities and a new reporting feature. Other features include the ability to check for compliance to internal/external policies and standards; a newly streamlined user interface; automated compliance status monitoring and reporting; and network inventory, firmware inventory, network health status, configuration changes, user permissions, and network compliance reporting. DeviceExpert also adds support for new vendors, including Juniper, Dell, and Netgear. The Professional Edition annual subscription rates start at \$795 for 25 devices.

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■ **Enterasys Networks** announced Secure Networks for Virtual Data Centers, a hardware and software solution designed for connectivity and compliance in virtualized computing and storage. Secure Networks for Virtual Data Centers offers tools to automatically respond to the dynamic mobility of virtual machines; enforce network access control policies; and comply with internal, industry, or government regulations. The Secure Virtual Data Center features a security-enabled infrastructure of Matrix N-Series flow-based switches and Matrix X-Series high-performance routers, which provide a capacity of 1,000 Gigabit Ethernet or 256 10Gb Ethernet connections per rack. And with Advanced Dragon security applications, the Secure Virtual Data Center provides intrusion detection/prevention, network access control, and security information management to automate compliance audits and reporting.

.....

■ **Exinda Networks** has announced an enhancement to its WAN optimization appliances that helps control a wide range of recreational Internet traffic, including instant messaging, gaming, and downloading entertainment-related files, that can slow business applications on corporate networks. The feature detects, blocks, or slows down encrypted P2P (peer-to-peer) traffic. Exinda says it is the only WAN optimization vendor that detects, classifies, and controls more than 1,000 applications that include encrypted P2P traffic; it can detect, classify, and control 98% of BitTorrent traffic. The company adds that its new feature classifies Skype and BitTorrent traffic using Layer 7 heuristics, while the company's new heuristics-based classification speeds data at up to 100 times faster than previously. Exinda's new classification engine will be available free next month to current customers as part of a firmware update.

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■ **Stonesoft** has announced the release of its StoneGate SSL VPN 1.1, a secure VPN product. Compatible with Windows Vista, StoneGate SSL VPN 1.1 is designed for fault-tolerant connectivity and enhanced ease of use and pairs with StoneGate Firewall. If an access point

Go to Page 16

82°
Skin starts to warm.
Ice starts to melt.
Equipment starts to fry.

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- 550+550 watts Output Power
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- N+1 Redundant Configuration
- Meet 2U Rackmount System

N+1 3U Redundant EFRP-3300SG



- 600W+300W Output Power
- N+1 Redundant Configuration
- Meet 3U Rackmount System

N+1 4U Redundant EFRP-4463G



- 1200W+460W Output Power
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- Meet 4U Rackmount System

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Product Releases

Continued from Page 15

fails, StoneGate SSL VPN 1.1 is designed to automatically find a working one, which also aids in disaster recovery. Sign-on has been revamped with an adaptive, self-configuring setup and username and password access to all functions. The StoneGate SSL VPN 1.1 will be available next month.

PHYSICAL INFRASTRUCTURE

■ The 6kVA Liebert GXT2 UPS, made expressly for 208V UPS applications, is new from **Emerson**. The 5U unit can be configured in a rack or as a tower. It can provide double-conversion online protection up to 4,200W. Its user-replaceable batteries provide up to seven minutes of full-load runtime, which can be increased with optional external battery cabinets.

SECURITY

■ **Adlink** released a new dual GbE PCI-X card that features bypass capability, which the company is targeting at content security, firewall, IDS, IPS, UTM, VPN gateway, and other network security appliance applications. The Adlink PCI-8246 card includes an Intel 82546EB dual-port GbE controller that supports full- and half-duplex transfers. It also supports 32- and 64-bit PCI and PCI-X buses at speeds up to 133MHz. The card's bypass feature relies on a mechanical relay array and a watchdog timer that directly connects the GbE signals on the ports when the system crashes or is powered down. Users can configure the watchdog timer to automatically

enable bypass mode during system failures. The card is available in OEM quantities for \$190.

■ In a bid to help organizations that handle cardholder data and other sensitive information, **AdventNet** introduced an enhanced version of its network security scanner, ManageEngine Security Manager Plus 5. The updated software now supports PCI DSS compliance, which enables users to determine at a glance if the systems are scanning network resources for vulnerabilities, encrypting data transfers, and tracking passwords. ManageEngine Security Manager Plus 5 also works with AdventNet's EventLog Analyzer system log management tool and the DeviceExpert multivendor network compliance management offering. The Professional Edition annual subscription rates start at \$995 for 50 systems.

■ **CoSoSys** is targeting SOHOs with its updated Secure It Easy 1.2 software. The security software prevents unauthorized portable storage devices, such as flash drives and external hard drives, from copying data that resides on a PC. The software now also has file-tracking functionality that lets it track data recorded to removable devices. Secure It Easy prevents data transfer to (and from) any device that hasn't been pre-authorized by the computer's administrator. Because the software also traces the information that is transferred to authorized devices, users have auditable information regarding data transfers from the PC. Secure It Easy supports Windows 2000/XP/Vista and is available in English, German, French, and Romanian

interfaces. CoSoSys offers a 30-day trial of Secure It Easy.

■ **Global DataGuard** launched the Enterprise Unified Threat Manager++ for comprehensive security applications that can be managed from a single console. The security manager is capable of being personalized based on the needs of the user, including network behavior analysis, vulnerability management, global event and threat management, intrusion detection and prevention, firewall and log management, and network access monitoring and control, as well as third-party integration. The Enterprise UTM++ adapts to the system's information sharing to detect threats and issue alerts among all applications and appliances involved. Enterprise UTM++ is available for \$1,000 per month from Global DataGuard.

SERVERS

■ **Bull** released the Escala EL460B, a POWER6 blade server, and AIX 6, an OS that provides virtualization capabilities. The Escala EL460B is a one-slot blade server with two sockets of dual-core, 4GHz POWER6 chips. The POWER6 blade server contains a SAS drive of either 73GB or 146GB, and it can hold up to four memory modules for up to 32GB of RAM. The EL460B comes with an onboard dual Ethernet connection, but Bull also offers 10Gb Ethernet, Fibre Channel, and High-Speed InfiniBand connections through optional mezzanine cards. Version 6 of AIX includes WPARs (Workload Partitions) to help enable advanced virtualization features, such as "cross-node"

application mobility. The WPARs also provide a cloning mechanism to simplify the installation process for complete application environments.

STORAGE

■ **Acronis** has released Acronis True Image Echo, which lets users back up and restore physical and virtual servers. True Image Echo runs with all physical or vir-



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tual Windows- and Linux-based servers or desktop systems. The product also supports virtual operating system configuration from VMware, Microsoft, and Parallels. True Image Echo uses Acronis' Virtual Live Data Format to separate hard drive data from the underlying file format and platform dependency, Acronis says, to create a transportable image that's independent of the hardware platform, and users can restore directly to or from any virtual or physical machine. Other features include direct output of VMDK and VHD file formats, support for dynamic disks, wake on LAN, VMware Consolidated Backup, and 256-bit archive encryption. The workstation version is \$79.99, while server versions for Windows or Linux are \$699. An enterprise version is \$999.

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Product Releases

■ New from **Aptare** are its StorageConsole 6.5 and StorageConsole Capacity Manager products. StorageConsole 6.5 is an agentless, bridged platform that offers single Web 2.0 console access to backup reporting and storage management features. Meanwhile, StorageConsole Capacity Manager serves up unparalleled detail on the capacity utilization of storage arrays, hosts, and applications, the company says.

.....

■ ViaBack RecoveryPlus, the data protection service from **Arsenal Digital Solutions**, allows users to balance the need for disk-based performance and reliability with market-proven and cost-effective secure tape options for long-term storage and transportability. This new service combines ViaBack, which incorporates deduplication technology and SATA-based disk support to maximize storage utilization rates and improve recovery point and recovery time objectives while establishing new levels of efficiency in storage with RecoveryPlus, an on-demand data protection service. RecoveryPlus cuts storage deployment and operational costs while allowing users to allocate disk and tape resources to better manage specific backup options and environments.

.....

■ **Network Appliance** has released the SnapValidator for Oracle Database 10g, which proactively inspects and catches potential data corruption or loss, increasing data reliability while helping to cut risk and unexpected downtime. NetApp and Oracle offer users defense and support for Oracle data, while eradicating the hardships associated with boosting

the accuracy of their data. This includes unintended application errors, human errors that potentially copy data onto the incorrect storage resources, and data backup and restoration processes that make data vulnerable to damage or loss. NetApp and Oracle accomplish this through database awareness to NetApp modular storage systems.

.....

■ **Reldata** has introduced the 9240 SAS/SATA Unified Storage System, which provides integrated iSCSI SAN, NAS, and WAN replication. With the 9240 SAS/SATA Unified Storage System, it is possible to scale disk storage capacity, SAN/NAS/WAN replication services, and network performance without interfering with application operations. The 9240 SAS/SATA Unified Storage System includes Reldata's 9000 Series Unified Storage Gateway with SAS and SATA storage. A 9240 SAS Unified Storage System with 1.75TB of storage costs approximately \$60,000, and a system with 9TB of storage costs about \$65,000.

.....

■ **Seanodes** has announced Exanodes storage software for server virtualization. With Exanodes, companies can use internal application server storage for a virtualized storage pool. With Exanodes' shared internal storage capabilities, companies can eliminate the amount of data center floor space and power consumption necessary under traditional storage technologies. The product supports a sustained read/write speed of several gigabytes per second. In fact, Exanodes makes it possible to rebuild RAIDs very quickly, so that even a full terabyte of data may be rebuilt in less than an hour.

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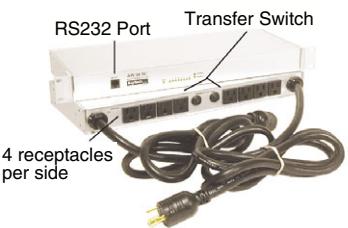
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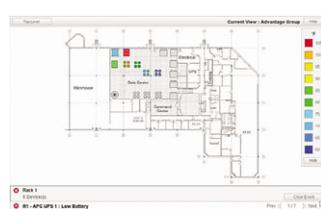
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BOOK  **REVIEW**

Comprehensive Source For Information Security

"Computer Forensics" Presents Hands-On Examples

by Elizabeth Millard

DATA BREACHES AND CYBER ATTACKS have become distressingly frequent, and many companies have found themselves under fire, despite stringent security measures. What's less publicized is the cleanup and documentation required after the attacks; some companies and colleges spend years putting together the information that's needed to go after attackers or shore up their defenses.

Part of the problem, believes John Vacca, author of "Computer Forensics: Computer Crime Scene Investigation (Second Edition)," is that there's a shortage of technologists with a working knowledge of computer forensics. Academics who are teaching

the topic lack real-world knowledge, he notes, and there aren't enough security specialists who are well-versed in the topic. But the times are changing, he writes. Not only are more IT people interested in forensics, but the growing discussion among lawyers, judges, and government agencies should boost the topic to the fore.

Thorough, Hands-On Guide

In the meantime, for anyone wishing to get a jump on the emerging field, Vacca's book is a useful and very thorough guide including hands-on examples in the form of case studies, projects, and checklists to provide readers with practical experience in computer forensics evidence capture, analysis, and

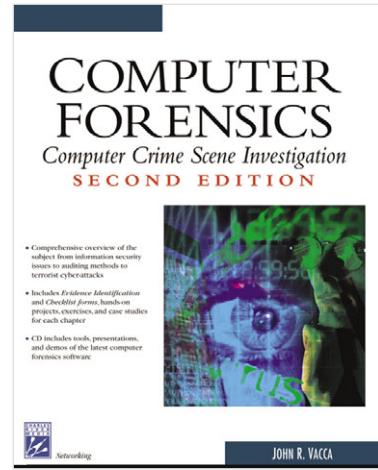
reporting, as well as information warfare countermeasures.

An accompanying CD-ROM contains tools that help readers analyze their exposure to security risks, manage insider-driven risks, and put into use the practical information contained in the book, such as evaluating the strength of user passwords and selecting a firewall topology.

Comprehensive Overviews

Vacca, who has served as a computer security official with NASA, is intent on creating the most comprehensive tool for computer forensics available, and to a large extent, he succeeds. Not only does he outline the types of computer forensics tactics available, but the book is also a good primer for security in general. Those new to the field can first get an overview of intrusion detection systems, firewalls, storage-area network security strategies, and wireless network security.

From there, tactics for forensics abound, from duplicating and preserving digital evidence to identifying relevant data to fighting macro threats. Throughout, the material is presented in bite-sized paragraphs that lay out the information in straightforward, easily digestible bits. Every company is at risk for attack, he posits, but with some knowledge about



Computer Forensics: Computer Crime Scene Investigation, Second Edition

Author: John Vacca

Publisher: Charles River Media

Price: \$49.95

Format: Soft cover, 832 pages

KEY CONCEPTS

► From the moment a computer is recognized as compromised, documenting should begin.

► Documentation should hold to a general standard: If someone with comparable knowledge picks up the first examiner's notes, he or she should be able to reach the same conclusion after following each step.

► Documentation should include the basic who, what, when, and where criteria.

► Companies have to keep track of their damages when responding to an intrusion threat for purposes of criminal prosecution, which includes costs associated with detection, repair, and prevention of future intrusions.

► To keep logs from being destroyed by malicious intrusions, system operators can output some logs to a CD-ROM device; this can be a more expensive route but will frequently offer greater security.

► Two separate backups of every relevant file and image should be made to protect evidence. The media a company chooses to use will depend on size, speed, and cost issues.

► To ensure that your network connections are secure, verify that there are no accounts for terminated employees, check for any manufacturer default passwords, verify that any open ports are disabled, and have the mindset of "deny all except that which is explicitly stated in the rule set."

computer forensics, an organization can minimize potential damage, and it can even facilitate data recovery in a more effective way. □

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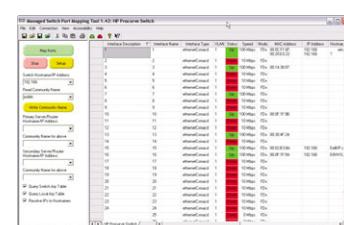
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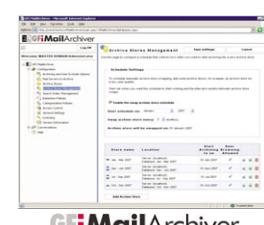
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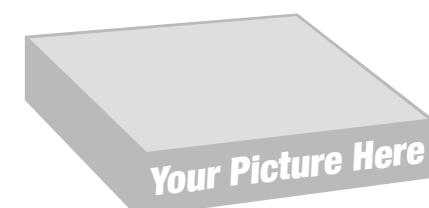
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OPINIONS

THE • LAST • BYTE

Making Small Storage Big

My Vista OS laptop seems to take forever to come back from or go into hibernation, and sometimes I think I could catch a nap waiting for it to boot up. Promised accelerators for the Windows OS using flash cache storage on hard drives or on the motherboard of my computer have yet to materialize. Maybe in 2008....

I know that there are a few other items that the guys from Redmond are working to fix in Vista first, but I guess I don't have much patience. It is often faster to write something on a scrap of paper than put it in my computer. Today's Windows-based machines could be a lot faster. Some of my friends with Apple computers speak highly of them, but I haven't used a Mac myself for several years. (I started out with one of the original Macs in 1985.) Now they can run Windows applications, as well. Maybe my next computer?

All Flash Is Cache

So those of us sitting in front of our machines waiting to work would love to have some options to make things faster. Flash-based cache and flash accelerators with the operating system are interesting options. These are examples of using flash and hard drives together to provide a mix of a cost-effective mass storage (using the hard drive) and higher performance. I have written about the Vista ReadyDrive and

the Intel Turbo Memory technologies in past columns.

A just-announced product from SanDisk called Vaulter is a flash-based, standard-sized mini PCI-E module that connects to the PCI Express interface inside a PC. Folks from SanDisk tell me that the operating system and/or applications can be put on and run from the Vaulter, giving faster computer response while the hard drive is used for mass storage of the data. The product is

TOM COUGHLIN

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currently available with 8 and 16GB capacities, which may work for some applications, but not every Vista installation will be able to be stored entirely on that size flash memory. I look forward to learning more about this product in the next few weeks.

Computing With A One-Track Mind

The BIOS is an often overlooked but very important part of a computer. BIOS

stands for Basic Input/Output System. It is a chip on the computer motherboard that performs basic computer functions that make the computer operational. The computer operating system runs on top of and uses the basic BIOS functions. In many regards, a BIOS is a lot like a small processor, similar to those used in many simple consumer devices. Several companies offer BIOS chips. Among the larger BIOS vendors is Phoenix Technology. Phoenix recently announced a technology that uses the BIOS to help launch some applications much faster.

The Phoenix HyperSpace technology is built on top of the BIOS and should be available on new Windows computers within nine months. HyperSpace is said to allow a computer to boot within four seconds to a screen where the user can do some basic tasks, such as running a Web browser or launching a DVD movie. The product uses "virtualization" to create separate regions of parts of the computer memory and the hard disk to run these simple applications. The resulting

"virtual space" is called AppSpace, where users can start preinstalled programs that are loaded with the shipping computer from the vendor. The Phoenix software requires 100 to 200MB of main memory. The technology costs about \$10 per license.

While the user uses the application running in his AppSpace, Windows Vista continues to boot in the background. The user

will be able to switch to Vista by pressing the F4 key. Examples of programs that could be run in AppSpace are Linux-based movie players, an Internet phone, instant messaging, email, or a Firefox Web browser. If all you want to do is watch a DVD movie, then you can choose not to boot Vista, which can save on laptop battery life, reportedly adding up to an hour of extra battery life.

AppSpace is also said to provide a "sand box" for new feature development separate from the main OS. Because this area only runs safe and secure programs, it prevents hackers from taking over the rest of the computer. Security vendors and computer administrators could use a part of AppSpace called ManageSpace to improve a computer's security or otherwise perform maintenance from afar.

What Condition My Condition Was In

There is a crying need for technologies that speed up the performance of computer systems. As we put more content with higher resolution on these devices, accessing and using this content becomes a bigger challenge. The idea of using only the computer resources needed to perform individual functions makes a lot of sense to me. So does the idea of using different sorts of storage products together to provide a better overall user experience. Combining effective storage hierarchies and virtualization solutions on computers in general should result in better machines. Keep on computing, and best wishes for the New Year! □

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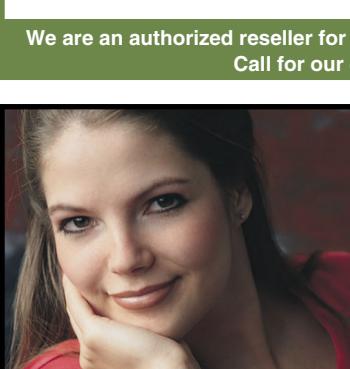
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PRODUCT OF THE WEEK

ATEN Eases Server Management For SMEs

KVM Switch Provides Secure Local & Remote Access

by Curt Harler

• • •

WHEN THE TIME COMES that IT needs to reach out and touch a computer, whether in the building or at some remote location, the KN2116 from ATEN Technology (888/999-2836; www.aten-usa.com) lets them do just that. The newest members of ATEN's family of enterprise-class KVM solutions are the KN2108/2116 CAT 5 KVM solutions. They are available in 8- and 16-port units with over-IP access and support for RADIUS servers. They support 10Base-T, 100Base-T, TCP/IP, and HTTP. ATEN calls its line the ALTUSEN enterprise-class KVM solutions.

"KVM switches are excellent tools for reducing enterprise costs and improving IT efficiency for organizations of all sizes," says André Girard, analyst with Venture Development Corp., aka VDC (www.vdc-corp.com). "These devices can significantly

conserve valuable data center space, lessen personnel costs, make server management more effective, and reduce costly downtime for enterprises," he says.

Spotlight On Features

"The KN2116 is a good choice for racked servers that are accessed via remote IP from the outside, as well as where local console access is also needed," says Keith Renty, business and product development manager for ATEN. "It also is useful for satellite offices, isolated server closets, and certain retail or manufacturing environments."

The KN2116 supports 16 computers directly with discrete simultaneous access by two remote users and one local user, so three different computers may be viewed or controlled at once. Multiple KN2116s can be cascaded up to three levels with other compatible ATEN KVM switches to control up to 1,024 computers, although separate IP access to noncascaded switches may be preferable for greater user throughput and to avoid switch-to-switch cabling.

Two IP users may select a different target computer, and up to 32 remote IP users can log in concurrently. Multiple users can share access to the same computer for collaboration, troubleshooting, or training.

The KN2116's PON (Power over the Net) serial port connects to various ATEN PDUs so power can be remotely controlled for connected servers or other devices. This is useful in power cycling a locked-up platform, Renty says. It is also handy for bringing dormant backup machines online.

Connection to the computers is via low-bulk CAT 5 cabling with server interface modules, or "dongles." According to Renty, "This allows the switch to accommodate computers with various video connections, as well as those with PS/2, USB (for PC, Mac, and Sun), Mini DIN-8 Sun, and RS-232 ports." Computers can be up to 130 feet from the switch.

It is no surprise that the KN2116 has excellent video resolution and multisession visual capability. Remote users can take control using either the provided Windows

client or a standard Web browser running ATEN's Java client. There is no charge for client software, Renty notes. The client ensures that remote access to the KN2116 is platform-independent. It allows operators to exchange keyboard, video, and mouse signals with computers attached to the KN2116 as if they were present locally.

The KN2116's detachable front panel connects to the rest of the switch via a coiled cable. "This allows the various indicators and the manual port selector switches to be at the front of a deep rack, where they are easy to see/use, while the connectors can be mounted to the rear rails for easy cabling access," Renty says. The unit's



front and rear panels can be mounted to the same set of rails, useful in a single-rail, free-standing, datacom-type rack, he adds.

Enhanced Security

The unit has trilevel security with super-administrator, administrator, and user classes of access. There can be up to 64 users with unique names and passwords and unique server access.

The administrator-set automatic logout feature automatically logs out any user after there is no activity for a specified interval. This prevents a distracted remote user from tying up port access and removes a potential security breach. The admin can also limit the number of login attempts. The switch's log server function allows the admin to install a log file on any server. All events that take place on the switch are then written to a searchable database.

"Lost admin passwords can only be recovered locally, which reduces the chance of mischief from an external IP connection," Renty says. Online, the system supports strong security with passwords and a choice of 1,024-bit RSA, 56-bit DES, or 256-bit AES encryption, as well as 128-bit

SSL, among other protocols. The admin can set IP and MAC filters (up to 100 each) to restrict access to specific hardware platforms and from specific network locations.

Success Now & In The Future

ATEN has several new KVM models with varying numbers of ports (up to 40 per 1U chassis), varying numbers of users, as well as other enhancements, which the company will announce next year.

"ATEN is one of the big three in the global KVM market, along with Avocent and Raritan," VDC's Girard notes. "They have gained significant market share in the past couple of years."

Girard points to ATEN's low-cost manufacturing ability in Asia as one of the reasons it is doing well. "They are strong in the enterprise market," he says.

The company is ISO 9002-certified. It has a facility in Taipei, Taiwan, that operates advanced surface mount technology equipment and a state-of-the-art computerized warehouse. ATEN's multi-angle Automated Optical Inspection system provides quality control for PCB (printed circuit board) surface, solder joint, and component defects.

Still, ATEN may see heavy competition from what Girard calls "disaggregated" units—those remote-manage consoles that offer one-to-one device management. These units require no rack space, and their form-factor often is a dongle hanging off the server. "The industry is moving toward embedded management," Girard says.

ATEN's answer is its CAT 5 port that improves cable management through the use of thinner cables, reducing clutter in the rack. "The KN2116 is an economical and powerful solution for server management in small to medium-sized enterprise data centers, as well as satellite offices and isolated server closets," Renty says. "It supports almost all modern hardware platforms and operating systems and provides both local and remote accessibility with no need for additional hardware or software purchases." □

ATEN KN2116 Quick Stats

Number Of Ports: 16, can be cascaded to 1,024

Users: 32 remote IP users simultaneously

Shelf Space: One rack unit high

Security: 1,024-bit RSA, 56-bit DES, or 256-bit AES

Software: Java client included

Supports: 10Base-T, 100Base-T, TCP/IP, and HTTP



PRODUCT OF THE WEEK

ATEN TECHNOLOGY KN2116

Description: Enables SMEs to manage servers and other network devices either in their data centers or from remote locations

Interesting fact: ATEN says it is the largest KVM manufacturer in the world.

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Reining In Users' Network Activities

Three Steps To Enforcing Acceptable Use Policies

by Sandra Kay Miller

SENDING JOKES TO FRIENDS and co-workers, doing some online shopping, listening to streaming music, checking the weather and Web-based personal email accounts—all fairly innocuous activities that millions of employees do each day during working hours. The reality is they are using corporate assets, including computers, email, bandwidth, the Internet connection, and perhaps most importantly, time.

Increasingly, organizations are put at risk and have even become liable for the online behavior of the users. Lawsuits from inappropriate emails and hours lost to personal online use, such as Fantasy Football, are costing employers millions of dollars each year.

However, lost productivity has been eclipsed by significant financial risks and security issues. Panda Security (www.pandasecurity.com), an antivirus and antispyware vendor, has found in its research that nearly 40% of all Internet browsing at work is personal and that two out of three visits to sites hosting pornographic materials occur during business hours. These sites, along with P2P applications, are often launching points for malicious code and spyware.

The growing propensity for litigation due to inappropriate employee use of corporate email, such as sending sexually explicit or racist materials to co-workers and external recipients, has also driven employers to crack down on the content of

nonwork-related materials sent through the company Web server.

In an effort to rein in the use of corporate resources, many organizations are instituting acceptable use policies. Charles Thompson, manager of sales engineering for Network Instruments (952/932-9899; www.networkinstruments.com), says there are three basic steps to setting up and enforcing an acceptable use policy.

Step One: The Type

First, organizations need to define the type of acceptable use policy they want to deploy. Thompson has seen policies scale from the very lenient to the extremely strict. Lenient policies typically limit the acceptable use of the network to only non-offensive material, meaning that a user is welcome to browse Web sites, such as those for sports and hobbies, as long as the content of those sites is not considered offensive. A more stringent policy focuses on allowing company equipment and resources to be used to only access work-related materials.

"It's going to be a decision based upon what the organization wants their liability to be. Obviously, the more restrictive the policy, the less liability for potential lawsuits. Additionally, from a technology perspective, the more restrictive the policy, the less bandwidth that needs to be made available to the overall network because there will be less contention for network resources from nonwork-related resources (i.e. streaming audio and VoIP)," says Thompson.

"When a large number of workers suddenly access online material, for example a Britney Spears video on YouTube, they

create a massive bandwidth demand on the company's network that everything just screeches to a halt," says Andrew Lochart, vice president of marketing for St. Bernard Software (www.stbernard.com), a provider of appliance-based and hosted security products.

During the initial process of setting up an acceptable use policy, organizations need to examine both liability and resource consumption perspectives.

Although a more restrictive policy may sound better at first, Thompson warns that tight controls require more resources for monitoring and enforcing policies. Organizations are also finding that allowing employees to access online resources for personal use at the office can actually cut down on the time they spend away from their desks. "If they can shop online at their desk at lunch, they might be there for an important telephone call that benefits their company or not get stuck in traffic on their way back to the office," notes Thompson.

Step Two: Enforcement

Once an organization has defined the type of acceptable use policy it will use, it needs to choose how to enforce the policy. There are two types of enforcement: active and passive. With an active policy, technology is in place providing content filtering of network traffic. When a violation occurs, an administrator takes action to ensure the activity is discontinued.

Solutions for active enforcement use a variety of technologies, including TCP resets or SNMP set commands and proxy servers for access control that will allow or

deny traffic based upon white/blacklists. Admins can block access outright or terminate it once they identify it as unacceptable. Thompson routinely witnesses organizations using a hybrid of the two methods as they shoot for an active enforcement policy. Lochart advocates filtering appliances attached to networks for delivering the highest performance and scalability for active enforcement.

The alternative is passive enforcement, in which administrators observe all network traffic in the environment and then, based upon careful inspection of active protocols and applications, they can identify potentially harmful and excessive traffic that violates the acceptable use policy. "I see more and more companies choosing a passive approach because it allows them to be more relaxed and to make effective judgment calls on whether or not the material is really work-related," says Thompson.

Step Three: Education

Any acceptable use policy is meaningless unless companies first educate users about what is expected of them. "Employees need to know exactly what is and isn't acceptable," says Thompson.

Lochart agrees: "A culture of security must be cultivated within the company so that it's not only the technology providing protection but the workers' attitudes, as well." Organizations need to be certain users understand the policies, and it should be enforced equally throughout the company.

Human Resources has made signing off on an acceptable use policy a routine practice for new employees. These policies can be a simple policy with generalized regulations or an in-depth document defining detailed aspects of using corporate assets. Forrester Research reports that a quarter of U.S. companies surveyed have terminated an employee in the last year for violating email policies alone.

Due to rapidly changing technologies, Thompson warns against listing specific applications. "We've seen organizations do well with blanket policies, such as saying 'any file-sharing applications are prohibited.' Once, I saw an acceptable use policy where the company said employees couldn't use Napster, so they used Bit Torrent instead," he says. Even with a generalized document, there can be exceptions to the rules through user compliant documents, which state specific terms under which content and resources can be accessed to conduct legitimate business.

Taking the time to set up and implement an acceptable use policy is a good investment for any organization. By following these simple steps, companies can limit their risk from the repercussions of unacceptable use, such as harassment lawsuits, and conserve demands on the corporate infrastructure. □

Solutions To Assist With Enforcing Acceptable Use Policies

Product/Contact Information	Features	Type
Enterasys Secure Networks Acceptable Use Policy Solution www.enterasys.com	A policy-based solution that secures the network from unwanted applications and protocols	Active
Network Instruments Gigastor (952) 932-9899 www.networkinstruments.com	Captures and stores all transactions, packets, and protocols and delivers robust reports for examining traffic and user tracking	Passive
Novell BorderManager www.novell.com	Enforces policies through URL blocking and Web-based proxy monitoring	Active
St. Bernard Software iPrism www.stbernard.com	An appliance-based solution delivering extensive blocking and user tracking features	Active



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PRODUCTS AT WORK

Solving Storage Overload

Make A Smooth Transition To NAS With Sans Digital

by Sue Hildreth

• • •

EARLY THIS YEAR, Jeffrey Yao, owner of CA Imaging, knew he had a growing storage problem on his hands. Even before the company's one file server began showing signs of stress, Yao realized that the 3TB of content stored on the server's attached hard drives was almost more than it could handle.

"We were using traditional ways of storing information—using a regular server with multiple hard drives—and we started having a lot of bottlenecks," says Yao.

For example, the server would slow significantly whenever too many users attempted to access the images or one user printed a very large image. CA Imaging—which hosts digital images and PDF files for a Taiwanese magazine and its U.S.- and Taiwan-based writers and designers—was clearly outgrowing its file server.

The Move To NAS

Yao realized he needed a different storage solution and in May decided to migrate from the old DAS (direct-attached storage) model—with drives attached directly to the file server—onto an NAS (network-attached storage) system. Unlike storage that is connected to a server, an NAS appliance is a self-contained device with its own operating system and file management software. That takes the processing burden off of the main server.

"There are about 40 people accessing those files all of the time, both writers and production people, so we decided it would work better to separate the storage onto its own NAS server," says Yao.

The company selected the Sans Digital (562/801-2888; www.sansdigital.com) AccuNAS AN208L NAS appliance to serve as the central storage device for the company. The AccuNAS series of NAS products is aimed at small and mid-sized enterprises. The five AccuNAS products range from the AN104L and AN104W (L is for Linux-based and W for Windows-based) with four bays and up to 4TB of storage, to the AN208W and

AN208L with eight bays and up to 8TB of storage.

The units come with either the Linux or Windows platform. In Yao's case, he opted to go with the Linux system, even though CA Imaging is a Windows shop. The reason: Linux takes up less overhead, in his view.

"Linux seems more efficient running on the same hardware than does Windows. One reason is Windows has a graphical interface," he explains. "I don't need a Windows interface for my NAS server; my front end is my Windows server." He also notes that the Linux AccuNAS appliances support Active Directory Service to enable them to work easily in a Windows environment.

The AccuNAS provides a Web interface for administration. This allows managers to monitor and administer the storage from any location. It also allows CA Imaging to access its custom archival software via the Web—a major benefit for small companies.



Implementation took approximately one month, says Yao, and involved moving files to the AccuNAS server, testing and retesting the system, and, finally, taking the new system live. "We had minimal downtime," he says. "It took about four hours for us to go live. It helped that we had everything planned out before we did it."

Of course, that's not likely to be the end of Yao's storage purchasing plans. Just as file servers can become overloaded, so can NAS servers. Yao expects that it won't take very long for the existing AccuNAS unit to fill up. When that happens, he plans to buy additional units and link them, daisy-chain style, to the primary AN208L. By connecting them in a serial fashion, he will be able to administer them as one storage repository, rather than as individual drives each connected to the central server.

"I can chain them if we need to expand, so I can still centralize the administration to one unit, which was something I was not able to do with the old architecture," says Yao.

To improve performance for the Taiwan-based production crew and writers, Yao purchased a second 208L appliance for the Taipei office. Now, all images and informational files are copied over to the Taiwan appliance each night so that users there can access the files locally, via the proxy server.

Supported Features

The AccuNAS Linux products also support iSCSI, a network protocol that allows the SCSI protocol to run over a TCP/IP network. It enables companies to create internal SANs (storage area networks)—in which remote storage devices appear as local to PCs on the network—without the cost of Fibre Channel equipment. According to Sans Digital, Fibre Channel solutions require the purchase of a Fibre Channel card for each server, along with a Fibre Channel Switch and Fibre Channel storage device, with a cost of around \$30,000 for the switch and storage solution.

iSCSI support was a key feature for Yao. "That was the primary reason I chose it. Fibre Channel would be too much money

and too much overhead for us. We were able to use our existing equipment with iSCSI," he explains.

CA Imaging is now able to provide a SAN for local users, as well as a NAS system for remote users connecting over a VPN because both are supported by the one AN208L device.

Another problem that had plagued CA Imaging's remote users in Taiwan was the slow connection speed from Taiwan to the United States. Transferring files over the Internet was frustratingly slow. With the move to an NAS architecture, Yao also opted to purchase a second AN208L unit to act as a storage proxy server in Taiwan. Once every 24 hours, all of the content of the California-based AN208L is replicated to the Taiwanese unit. Writers and production workers can then get most of the files quickly from the local NAS drive. Only for very recent files do they still need to connect to the United States.

"With one AccuNAS here and one there, we can just replicate the content once every day, and they can access that content very fast. If the file is too new, they can still get it from the U.S., but at a slower speed," explains Yao.

The AccuNAS provides a Web interface for administration. This allows managers to monitor and administer the storage from any location. It also allows CA Imaging to access its custom archival software via the Web—a major benefit for small companies such as Yao's.

"The whole administration part is done with a Web interface. For me, that is really convenient when I'm traveling," he says. "Before, I had to either be in front of the server or use PC Anywhere to access it. Now I can easily monitor everything and make sure it's the way it's supposed to be."

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"We had minimal downtime. It took about four hours for us to go live. It helped that we had everything planned out before we did it," says Jeffrey Yao, owner of CA Imaging.

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Biometrics: Is It Time Yet?

SMEs Are Starting To Get Their Hands On The Technology

by Sixto Ortiz Jr.

IT'S THE KIND OF STUFF that used to be found only in science fiction or spy movies: devices that use something unique about a person, such as fingerprints or the pattern of blood vessels on the retina, to positively identify an individual and grant access to a restricted area or a computer. Today, biometric devices are quickly emerging from make-believe into reality as numerous products designed to work with computers make their way into the marketplace.

Perhaps the biggest advantage that biometrics products offer for computing security is the fact that users don't have to bother with remembering passwords or access codes simply because these systems authenticate based on unique physical traits. But biometrics products have not yet taken computing by storm, even as the need for strong authentication mechanisms increases.

Biometrics Adoption Today

Even though biometrics offers unique advantages for authenticating users, the fact remains that these devices are not anywhere near ubiquitous in the corporate world. Even though the technology is available for providing convenient identification mechanisms that don't require any end-user effort to develop and remember, most businesses still rely on password authentication for managing access to business systems.

But the tide may be finally turning in favor of biometrics devices. Chip Mesec, senior product marketing manager for DigitalPersona (www.digitalpersona.com), a provider of biometric authentication solutions for enterprise networks, developers, and consumer OEMs, says some large enterprises are adopting biometrics, but SMEs are adopting biometrics at a faster rate.

"Larger organizations are often slower to adopt new technologies because they have longer decision-making, purchasing, and deployment schedules," says Mesec. On the other hand, he adds, small and medium-sized enterprises are rapidly adopting fingerprint biometrics in retail, financial services, health care, and government as more low-cost, embedded solutions become available in the marketplace.

Tucker Lichtenberger, marketing specialist for M2SYS Technology (www.m2sys.com), a fingerprint identity management technology provider, thinks some businesses might be hesitant to adopt biometrics products because decision-makers think integrating biometrics is a huge undertaking. "Many businesses believe that they will have to invest too many resources to integrate biometrics into their systems and

One of the perceived problems with biometrics is rooted in, quite simply, users' sense of paranoia.

that the initiative could divert focus from their core competencies," says Lichtenberger.

At the end of the day, any implementation pains may be outweighed by the significant advantages biometrics can bring to the table. But there are some perception issues that the technology must overcome if it is to truly step into the limelight.

Perceived Issues

One of the perceived problems with biometrics is rooted in, quite simply, users' sense of paranoia. Many people believe that fingerprint systems actually store a physical copy of a user's fingerprint image, says Lichtenberger. "With that being said," he notes, "people are worried that by submitting their fingerprint, 'Big Brother' will be

able to track them or access their personal information."

This fear may be rooted in the fact that some fingerprint systems copy the fingerprint and allow it to be duplicated, says Mesec. But these systems, called AFIS (Automated Fingerprint Identification Systems), are usually associated with law enforcement and border protection, he adds.

Other systems, called non-AFIS, gather characteristics of the fingerprint and mathematically convert those into a set of numbers, says Mesec. These numbers, called templates, are much easier to store and move around and don't contain all of the information from the true fingerprint image, so there's no image to lose or steal, he says. DigitalPersona's fingerprint authentication systems handle fingerprint authentication in this manner, he adds.

M2SYS' technology also works in this manner. The company's biometric software scans a fingerprint and then converts the image to a mathematical representation of the print, so an actual copy of the image is

never saved. And, he adds, this stored "identity template" cannot be reverse-engineered into the actual fingerprint image. In spite of the perceived issues with biometrics systems, these devices can solve a lot of problems for enterprises today.

Biometrics: The Advantages

According to DigitalPersona's Mesec, biometrics improve network security by eliminating passwords that can be lost, stolen, or shared, reducing IT support costs by eliminating help desk requests and improving regulatory compliance by providing user-unique audit trails.

M2SYS' Lichtenberger says biometrics' top benefit is enhanced security, whether it's verifying customer identity for secure payment transactions, preventing customer

or employee identity fraud, or clearing customers for entrance into bank vaults and safety deposit boxes. But, he adds, "The biggest surge right now in the use of biometrics is the level of convenience that this technology can provide." This is because users can simply use their finger to access a bank account, for example, instead of having to complete a form or answer a teller's questions, he says.

And, as DigitalPersona's Mesec puts it, the undeniable benefit of biometrics is that you can't leave home without it, so lost identity cards and forgotten passwords are no longer an issue. As Mesec says, "Simple trumps complex every time."

Current Products & Future Developments

Both DigitalPersona and M2SYS develop and market tools that can be used for developing custom biometric fingerprint applications. For example, M2SYS' Bio-Plugin can be used to integrate biometric fingerprint capabilities into existing systems without having to delve into low-level SDK integration. For instance, M2SYS' Enterprise Biometrics Suite integrates with Active Directory to provide secure network logon capabilities.

DigitalPersona's business product offerings include the company's DigitalPersona Online, a system consisting of client and server software to enable fingerprint authentication for Web applications, and the DigitalPersona Pro product line, which includes the DigitalPersona Pro Workstation Software and DigitalPersona Pro Server Software, for providing networked biometric authentication at the enterprise level.

Looking Ahead

According to Acuity Market Intelligence, an emerging technologies market research firm, biometrics is expected to enjoy tremendous growth in the years ahead. Biometrics industry revenues are expected to surge from approximately \$1.2 billion this year to \$9.9 billion in 2015. This forecast represents an opportunity for both developers of biometrics products and business users looking to strengthen their authentication mechanisms and finally step out beyond passwords. □

Biometrics Products

Company/URL	Product	Description
DigitalPersona www.digitalpersona.com	DigitalPersona Pro for Active Directory	Includes network, application, and Internet authentication software and integration with Active Directory
M2SYS Technology www.m2sys.com	Enterprise Biometrics Suite	An enterprise fingerprint login solution that integrates with Active Directory
Microsoft www.microsoft.com	Fingerprint Reader	Compatible with Windows Vista, this simple reader lets users log in to their PCs and online sites via fingerprint authentication
SecuGen www.secugen.com	SecuGen Hamster III	A hardware fingerprint reader compatible with fingerprint-reading software, such as SecuGen's SecuDesktop Pro

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Emerging Technology: When Should You Act?

Timing Is A Business Matter, Not An IT Driver

by John Brandon

• • •

IN THE CURRENT IT CLIMATE, it seems as though all technology is "emerging." In fact, whether it is IP telephony, video over the Web, unified communications, or server virtualization, it is hard to know when a market has finally fully emerged and when it is still in an infant state. According to a Gartner report issued in early October, called "Justifying Emerging Technologies to Business Leaders," IT should look to the business side of a small to medium-sized enterprise to quantify whether a new technology is worth pursuing.

In the report, analyst Betsy Burton outlines a strategy for IT that is clear and direct: IT should continue in the full transition to a service-oriented organization of the company and strive to meet the needs of the business rather than jump on the latest technology bandwagon.

The Gartner plan instructs IT managers to start by defining key metrics in the business unit, define best practices and skills that match the emerging technology needs, develop a clear work plan for the new technology, build a culture for the skills needed to embrace new technology, and budget time for experimentation within IT. All of

these steps start with the business case for the technology.

"IT needs to focus on the business effects, such as increasing sales, creating new sources of revenue, increasing speed of communication, and on the balance between optimizing operations and creating business transformation," says Burton in the report. "Different emerging technologies may be best utilized at different points along this continuum. By leveraging a classic business practice of scenario planning, IT leaders can more clearly understand if and how to use emerging technologies."

Action Planning

Of course, agreeing with an action plan and putting it into action are two different concepts. IT has long been positioned as a technology leader and innovator. Server virtualization is one of the most obvious examples where the IT benefits are clear (consolidation, lower costs, less complexity for some tasks), but the business value is not as much of a driving force. In fact, to the end user, a virtualized server is no different from a physical server—which is exactly why the technology is so popular.

Meanwhile, according to Yankee Group analyst George Hamilton, the director of enabling technologies, a clear example of a

business case driving technology is with IP telephony. For business reasons, such as greater productivity for mobile users and more flexibility in communication, Voice over IP in particular is a great asset. For IT, voice communication used to be a matter of connecting handsets into a wall outlet and configuring the phone system but is now much more complex to manage.

One emerging technology that could test the IT and business relationship is virtual storage, which matches well with virtual server environments and could alleviate some of the pain that business units feel in storage management but could have a more dramatic effect on IT infrastructure.

Hamilton says IT is still evolving as a service organization, and nothing tests that imperative like emerging technology. Value-added resellers and channel partners for SMEs have shown how a service organization can operate efficiently, serving the "business" needs of IT. Even in a small to medium-sized enterprise, IT should act more like a VAR when dealing with business units inside the company.

"Small and medium-sized businesses can't afford to make mistakes, which is why they rely on VARs and channel partners," says Hamilton. "They have a trusted relationship that mitigates the risk." Hamilton notes that IT needs to forge this same trusted partnership with the business units, so they can adapt and hit the ground running with new technology instead of being caught off guard.

The 80-20 Rule

Another dramatic shift that Hamilton predicts has to do with the 80-20 rule. Today, IT tends to focus 80% of its energies on maintenance and 20% on new projects. In the changing IT landscape, where high service levels can lead to outsourcing to meet business objectives, emerging technology could break that 80-20 rule and possibly even reverse it. IT could become much more experimental with new technologies, such as unified communications, if the business is demanding it.

According to Burton, that shift will be welcome because it will force IT to become more business-savvy in dealing with business leaders, strategically planning new initiatives to match technology rather than the other way around. "IT leaders need to lead business leaders in determining the business goals and objectives, developing an initiative for exploring possible business scenarios for leveraging emerging technologies, and determining the effect on governance, skills, and portfolio management," says Burton.

Whether that wholesale shift in IT focus will occur, especially in SMEs where business needs change quickly, is hard to predict—almost as hard as predicting emerging technologies. □

Emerging Technology Strategy Quick Tips

- Analyze business benefits first and then develop IT strategies.
- Develop a service-level commitment to new technology.
- Hone IT skills to be adaptive to emerging technology.
- Make business drivers the primary motivation to investigate technology.

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WHAT'S HAPPENING

Monitoring Operational Activity

Lancope Correlates Security & Network Intelligence

by Julie Sartain

• • •

SECURITY ATTACKS TODAY are at an all-time high, often rendering traditional network security ineffective; the old programs can't always keep pace with the new, continually evolving threats.

Lancope (www.lancope.com) has a product to combat these intrusions and empower users to fight back. It focuses on expanding the capabilities of its StealthWatch NBA (Network Behavior Analysis) system to meet the security needs of enterprise organizations. As a pioneer in this technology, Lancope was the first to combine behavior-based anomaly detection and reporting of network operations. Currently, the StealthWatch System monitors and secures more than 30 million hosts across hundreds of global networks that span a wide range of industries.

Problems & Solutions

According to Jason Anderson, vice president of engineering at Lancope, the company reviewed how networks were managed and discovered that very few enterprises had visibility into the real activity on their networks. This meant problems could rapidly develop into serious issues before being detected and, once detected, required significant manual efforts to investigate and troubleshoot.

Anderson adds that much of the information the administrators needed likely existed somewhere, but locating it was most of the battle, and finding that crucial information during a crisis was even more difficult. "Working with many disparate sources of

information and then trying to bring all the pieces together to form the big picture is time-consuming and laborious," he says. "Moreover, this approach requires that the IT staff have tremendous amounts of knowledge about all the systems on their networks."

The solution is pervasive monitoring of all activity on the network all the time, notes Anderson, so IT staff has the necessary information as soon as the need arises. But the solution may be beyond the reach of many organizations because the costs are too high and the benefits too small.

"The best solution will provide day-to-day operational benefits while collecting the information necessary to detect and investigate problems," says Anderson. "With this approach, personnel are familiar with the application and have confidence in it when a crisis arises."

Research & Development

Lancope's R&D concentrates on the use of flow data for security and network operations applications. Over time, the focus shifted from raising alarms to providing a broad range of information about activity on the network so admins could identify the cause and scope of these problems more effectively. The engineers learned Lancope could monitor large networks with very little equipment, adds Anderson.

From its inception in 2000, Lancope's efforts were about detecting those problems that a traditional IDS approach would miss. At that time, the state-of-the-art IDS was signature-based and required knowledge of vulnerabilities in order to detect problems.

"Here at Lancope," says Anderson, "we believed that this would result in an arms race with the security companies constantly working to update their signature libraries with each new problem uncovered."

The company's goal was to provide another method for detecting problems that would not require advanced knowledge of vulnerabilities, Anderson notes. Lancope pioneered a behavioral-based approach that leverages the knowledge gained, over time, for how a host on the network normally acts. When any host starts behaving in a way that is significantly different from past behavior,

Lancope's technology detects that change and provides information about what was going on at that time.

Lancope uses a flow-based approach to summarize activity. "To us, a flow is the record that two hosts have communicated and the statistics about that communication," says Anderson. "We developed algorithms to identify the client and server in each exchange and a number of characteristics of those communications that we deemed significant." This summary provides the most significant information for detection and investigation while minimizing the amount of data Lancope had to store. It balanced the cost of coverage with necessary details and allowed the capture of every conversation on the network for long periods of time.

As the market evolved, the technology matured, and Lancope discovered that a sniffer-based approach could not scale to the extent of coverage organizations demanded. Monitoring the activity in a large company would require hundreds of probes, and the acquisition, deployment, and maintenance of

an installation that large were more than the perceived benefits could justify. So NetFlow and sFlow were deployed to provide the information needed for analysis and, with the special processing performed on those flow sources, many of the benefits of the sniffer-based product could be duplicated.

"With NetFlow and sFlow, our customers' routers and switches became virtual probes and, with the advances in hardware from Cisco and Foundry, turning on that data export became efficient. With this additional information about [and from] the routers and switches, we discovered that it

could add another dimension to the data," says Anderson.

Although the initial focus was on hosts and flows, Lancope could link those to the network infrastructure itself, Anderson adds. Now, whether a problem is discovered with a host or a router, admins have an appropriate place to start looking and a link to the associated pieces of the problem. Then Lancope added integration with identity stores, which tied the activity back to the actual user of the system involved with the problems.

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Future Plans

Future enhancements include adding to and improving the significance of alarms, adding more network performance monitoring capabilities, adding new flow sources, and adding support for IPv6 networks, and further integration with network equipment for mitigation purposes, says Anderson.

Anderson adds, "Lancope is also focused on the integration of our system into the larger network information infrastructure that many of our customers have deployed." □

THREE QUESTIONS

SonicWALL Meets Varied Security Demands

Providing Protection Beyond The Internal Firewall Is Critical

by Darrell Dunn

WITH MORE THAN 15 YEARS' EXPERIENCE providing IT security products to enterprises of all sizes, SonicWALL (www.sonicwall.com) has seen the rise of complexity in securely managing corporate assets and enabling business innovation. The company offers a wide range of network security, secure remote access, Web and email security, backup and recovery, and policy and management products to help businesses meet critical IT objectives without compromising network performance.

"We believe we have a relentless pursuit of innovation that drives the cost and complexity out of high-performance, secure infrastructure, which frees businesses to be more productive," says Jon Kuhn, director of product management for SonicWALL.

SonicWALL's family of network security appliances uses high-speed deep packet inspection and integrates automated and dynamic security capabilities for protection and performance. The company also provides endpoint security protection against new virus, spyware, spam, and phishing threats; SSL-based VPNs for secure remote access; and email security for organizations of fewer than 25 to more than 100,000 users.

"We sell any number of packages like inspection firewall," Kuhn says. "We have Web filtering that is used to look at the Web sites and, based on policy, manage site access. Our appliances control the backup and recovery of internal data on workstations and servers."

■ What are the biggest IT-related issues facing today's small to midsized enterprise?

"The biggest 'new' issue facing IT organizations is the growth in real-time demand and applications," Kuhn says. "And it has become increasingly difficult to tell where the network starts and stops for these administrators. There is a lot of confusion in how best to manage the security and efficiency of these real-time applications as they move outside the network."

With the growth of Web 2.0 and SaaS apps, an increasing amount of network traffic is outbound rather than in the form of the traditional flow of users accessing data and applications almost exclusively on internal servers, Kuhn notes. IT must ensure the security perimeter includes mobile and telecommuting workers, remote offices, and Web-based applications.

"This change has bred the concept of the disappearing perimeter," Kuhn says. "Workers are no longer siloed into a single environment, and access to resources is coming from everywhere—a Starbucks, a hotel, an end user's home. This new type of worker is also routinely storing huge files local to their PCs."

■ What should Processor readers know about your company's products?

"We've taken a look at the top security issues facing business and have developed

products that secure the network from four different perspectives," Kuhn says.

The SonicWALL product portfolio protects the network from basic but increasingly complex Internet-based threats, such as denial of service attacks and application layer attacks. The products provide a secure perimeter and connections for remote users, provide security for the internal network, and protect business communications, he notes.

"The primary means of business communications today is email, and we concentrate on guarding against threats coming over email," Kuhn says. "We also want to make sure that data that is sensitive to an organization is not going to get passed outside the network and into someone's hands that should not be reviewing the data."

■ What makes your company unique?

"We look at secure networking from a very core level and have developed an engine called the reassembly-free deep packet inspect engine," says Kuhn. "It combines multiple security technologies, or filters, and looks at exploits and vulnerabilities and completes real-time application inspection by scanning traffic as files are being transferred," he says. "End users today want their access to data to be dynamic rather than static, and a corporate IT security strategy must be, as well."



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